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DANIEL LEE,
Publisher and Proprietor, Rochester, N. Y.

HINTS FOR APRIL.

April is an important month to the farmer. In large sections of our extended country the planting of corn and cotton will be completed this month, and in every part plowing and seeding will be performed. On thousands of farms, some fields will be troubled with an excess of water in the soil, and need at least surface draining. We can not too earnestly urge attention to this subject; for to sow or plant, or even to plow, land that is too wet, involves a prodigious loss which ought to be avoided. Earth saturated with stagnant water can never develop fertility, or the healthful growth of agricultural plants. It is in vain that the farmer cultivates a soil from which the air is nearly excluded, because the earth does not break up into an open, friable, pulverized mass. It is true that sandy and gravelly soils are sometimes too porous—present too large spaces between the particles of solid matter. To such, the application of good clay as a top dressing, especially where land is valuable and crops most remunerative, pays well, as it gives body and strength to the arated ground.

The difference between tilled and untilled ground is not sufficiently studied. Men plow, harrow, roll and hoe the earth's surface, without asking themselves *why* they do so. A physical change in the soil is sought and accomplished; but what constitutes the perfection of that desirable change? Who has mastered the deep philosophy of tillage, whether shallow or otherwise? Of all the books and journals that have treated on this subject, it is difficult to find one the writer of which appears to comprehend the *condensing power* of a first rate soil after it has been wisely tilled. A heap of finely pulverized charcoal has been known so to condense atmospheric air within its pores as to be set on fire by the evolution of latent heat in the before rarefied air, rendered sensible and active by mechanical compression within the innumerable pores of the coal. The extreme porosity which distinguishes the best loams, perfectly comminuted by the implements of tillage, compels the oxygen, carbonic acid and nitrogen of the atmosphere, to fecundate the earth in a remarkable degree. But if the plow, cultivator, harrow, hoe and roller do their work badly in the spring, either from carelessness or wetness of soil, the latent resources of nature are not reached by the farmer's crops for that year. He will lose full twenty-five per cent. of his labor, and of the fair return for the use of his land.

One can improve a soil which is defective from an excess of open gravel, or porous sand, much easier by the addition of clay, than he can remove the compactness and imperviousness of hard clay by the application of sand. To get air into clay land, and make it break up kindly when plowed, there is nothing better, if so good, as *under-draining*. Wherever water passes through the surface and subsoil into a flowing outlet, atmospheric air follows it, and areates the earth. This important fact is too little considered by farmers; hence the eye of science sees a great deal of land plowed in the spring before it is fit to plow. Earth saturated with unmoving water excludes air about as effectively as would a solid cannon ball made of iron or lead.

From these hints on drainage, tillage and areation, we pass to the consideration of manure—the food of plants. Many feed their horses, cattle, sheep and hogs in a wasteful, slovenly manner; but the loss from this carelessness is small in comparison with that attending the wasteful application of manure. A prominent defect arises from the assumption that one knows the relative value of fresh and rotten manure, and also the real virtue of different fertilizers, no matter whether formed exclusively of wheat, rye, oat or buckwheat straw, of corn stalks, leaves and husks, timothy or clover hay, pea vines, grain or roots. We hope not to give offence when it is intimated that the exact nutritive properties of the various kinds of aliment consumed by agricultural plants have not been investigated as they ought to be. We have often

seen industrious farmers hauling street dirt, and other worthless trash gathered up in cities, six or seven miles into the country for manure, that was not worth ten cents a load; for what was not clay and sand, was substantially wood and water. Such men never sit down of an evening, take a volume of the GENESEE FARMER in hand, and study out the true reason why a ton of guano is worth fifty dollars for feeding to one's growing crops, while a ton of common barn-yard manure is worth only one-fiftieth part of that sum. It is not enough to know that the bird-dung contains fifty times more ammonia or nitrogen than the dung of straw-fed cattle, although a clear understanding of this fact is certainly worth not a little to the practical husbandman. It suggests to him at once the propriety of cultivating pretty largely such plants as will yield manure rich in nitrogen or ammonia. A thousand pounds of wheat or rye straw contains not to exceed four pounds of nitrogen, while the same weight of clover hay contains twenty-four or five pounds. Peas, beans and cabbages are still richer in the most valuable elements in guano. The wise and economical production and consumption of manure constitute the back-bone of scientific agriculture. We have on hand several letters of inquiry in reference to manure-cellars under stables and barns. A barn or stable with this appendage can be cheapest made where one has a side-hill, or slight elevation into one side of which he can dig, plow and scrape out the earth to form a capacious storage room for manure. This basement should, in all northern latitudes, be walled up on three sides at least; and a part of it may be used for stables, for the storage of roots, or both. Manure made without exposure to the weather is as much better to nourish plants as good hay, made without rain or dew, is better than that which has been washed and whitened a month for feeding cattle. The practice of feeding agricultural plants on bad food is discreditable to the rural knowledge of the country. If one is unable to procure but little manure, by all means have that little of the very best quality. The woody stems of grass, the insoluble part of cow-dung, is about as rich in nutritive properties as pine saw-dust. It is better calculated for heating stoves and ovens than to feed and fatten growing corn plants. These tolerate no saw-dust diet; they demand aliment rich in phosphates of potash, lime, magnesia and soda, and rich in ammonia and carbonic acid diluted in water.

Large crops will bring a heap of money next autumn and winter, and now is the time to provide means for their growth. On our farm we estimate a bushel of hard wood ashes, unleached, as worth twenty cents for aiding in the growth of corn and potatoes. A bushel of salt and one of gypsum to five of ashes, make the latter far more effective. If salt and plaster were as cheap in Washington as they are in Rochester, we should use at least fifty of plaster and one hundred and fifty of salt this spring as food for growing corn, in addition to other manure.

By planting corn too thick—having the rows too near to each other, and too many plants in a hill—you may gain in forage, but you will lose in grain, especially if the soil be not first rate.

CABBAGE grows wild in Sicily and Naples.

HINTS FOR PRACTICAL MEN.

IN reading the twelfth volume of the *Transactions of the New York State Agricultural Society*, the following remarks, which may be found on page 597, made by HENRY YOUNG, of Owego, we characterize as valuable hints for practical men: "Barley or oats, being sown on land well prepared by tillage and manure, will come up and grow well without rain, when the same grain sown on another part of the same land, and not thus manured and tilled, will scarce come up at all without rain, and if they do, will wait wholly for rain for their growth and increase. The hoe also, particularly the *horse-hoe* (for the other does not go deep enough), produces moisture for the roots from dews, which fall most in dry weather." Deep and perfect tillage increases the supply of moisture to the roots of plants, not by the collection of dew below the surface of the ground, as Mr. YOUNG appears to believe, but by a different law than that which precipitates dew on falling bodies. A leaf of corn, oats or grass becomes wet with dew on a clear night because it radiates heat rapidly, and thereby becomes, like the surface of a pitcher filled with cold water in July, colder than the surrounding atmosphere. The pitcher is soon covered with a genuine dew, like the cool grass in early morning.

Finely tilled earth is calculated to imbibe heat rather than radiate it; and the moisture it acquires about the roots of thirsty plants in dry weather is not "dew," but water from another source than precipitation. Before explaining the phenomenon to the unscientific reader, we will copy all that Mr. YOUNG has to say on the subject: "These dews seem to be the most enriching of all moisture, as they contain a fine black earth, which will subside on standing, and which seems fine enough for the proper pabulum or food for plants. As a demonstration that tilled earth receives an advantage from these dews, dig a hole in any piece of land of such depth as the plow goes to, fill it with powdered earth, and after a day or two examine the place, and the bottom part of this earth and the bottom of the hole will be moist, while all the rest of the ground at the same depth is dry; or if a field be tilled in lands, and one land be made fine by frequent deep plowings, while another is left rough by insufficient tillage, and the whole field be then plowed across in the dryest weather which has long continued, every fine land will turn up moist, and every rough land as dry as powder, from top to bottom."

The remarks last made call attention to facts of great importance; and we are prepared to inquire how it happens that so much more moisture is found in thoroughly tilled earth than in badly tilled earth, in dry weather. To understand this phenomenon, it should be remembered that most of the dew that falls on the leaves of plants evaporates again after the sun rises, and very little if any water enters the pores of leaves, and descends to the roots of plants through their stems. The water that keeps plants green and growing in dry weather is derived mainly from the subsoil, and invited to ascend by bringing the earth above it into the best possible condition for the free circulation of water, by a law called capillary attraction. Direct experiments with finely pulverized earth

in long large glass vessels, have demonstrated the power of capillary attraction to raise water over twenty feet; and under favorable circumstances, we can discover no limit to the ascent of water in good loam, clay or chalk. Plants standing on an impervious stratum of hard-pan, or upon a rock that underlies the surface soil, suffer most from drouth, because the supply of water from below is cut off. Dews do not, in such cases, supply growing crops with the needful moisture.

Soils are not wholly dependent on capillary attraction for their moisture in dry weather, drawing dampness from below upward. The porosity of finely comminuted earth enables it to condense the extremely diffused particles of water as they exist in the dryest common atmosphere. Soils dried artificially, first in a stove and then under an exhausted bell glass, on being again exposed to the atmosphere take from it from ten to twenty per cent. of their weight of water, according to their quality. How much of this atmospheric water the thirsty rootlets of agricultural plants can absorb, and literally pump out, by the direct rays of the sun acting upon their curling leaves, neither agricultural meteorology nor chemistry informs us. We suspect, however, that no soil can draw from the atmosphere in dry weather, either by condensation from dews or otherwise, water enough to meet the wants of any cereal, legume, or other common plant. By showers, the watering pot, or other irrigation, water must be conveyed into the soil; and the subsoil, which looks in the direction of all our wells and spings, will yield water, if one makes the right arrangement to draw it up from below. What Mr. Young says about dews yielding "a black earth fine enough for the pabulum or food of plants," is an obvious error into which he has fallen by following some writer who was incompetent to do justice to the subject. Dew is the purest distilled water that nature any where forms. It does not fall, like rain and snow, some distance through the atmosphere, but is formed at the point of contact where invisible vapor touches a cold body, like a glass filled with ice-water, the outer leaves on a forest tree, or those of grass in a meadow where dews are most abundant. Very little dew falls on a summer fallow, a dry road, or on sand, which cool very slowly after sundown.

WHEAT AFTER CORN.

Mr. Truman Pattingill, of Wales, Erie county, in this State, raised fifty-two bushels of wheat on an acre, sown on the 16th of September, 1851, on ground that had produced a good crop of corn that year, it having been well manured for the purpose. It has long appeared to us like sound farming to sow wheat after corn, where one is able to manure his corn land well before planting; for the immediate return in corn and corn fodder, wheat and wheat straw, gives one a handsome sum of money without cultivating a large area. Good manure, and a plenty of it, enables a farmer to shine in his profession; but wheat and corn-growers often find it next to impossible to enrich all their grain fields. As in the case of Mr. Pattengill, a single acre, by receiving forty loads of stable manure, may be made to yield a premium crop. This is, however, an imperfect system of tillage; for these forty loads of manure deplete two or three other acres from which the manure was drawn, in order to grow the extra corn and wheat harvested on the single acre. It is at best only robbing one field to enrich another. So much manure ought to be obtained from the crops of corn and wheat, and applied to the land, as will suffice to make the corn crop of 1853, after the wheat, equal to that of 1851; and the wheat crop of 1854 equal to that of 1852, or fifty-two bushels per acre. With a fair supply of manure for the corn crop, why may not a large yield be obtained every alternate year, and that be followed by crops of wheat equally remunerative? With wheat at a dollar a bushel, corn fifty cents, and land in a first rate condition, farming is a capital business. The most common failure is in the elements of crops in the soil; and this arises not so much from the natural sterility of the earth as the almost universal practice of taking vastly more out of the soil in agricultural plants than is restored to it again. This is the true reason why so few acres produce fifty bushels of wheat, or one hundred of corn, in this country. All classes unite their labors to consume and waste the raw material indispensable to the cheap production of grain, vegetables and provisions. These extract the elements of crops from all arated fields, pastures and meadows, which elements being sent to distant cities for consumption, are there cast into such rivers as the Thames, Seine, Hudson and Mississippi. Such national folly desolates islands and continents, without benefitting one human being; for all alike need their daily bread, and the raiment manufactured from the farmer's wool, flax, cotton and hides.

As a cultivator of corn and wheat on a worn-out farm, the writer feels deeply the need of more manure, and is willing to say or do almost any thing that shall serve to arouse the great agricultural interest to take some action in behalf of our American soil. Every year's delay involves the needless loss of hundreds of millions of dollars. The agricultural statistics of the State of New York for 1845, having been taken in a more searching manner than any ever before or since, in accordance with schedules prepared by the editor of this journal, we are now able to say that the farmers of Erie county, in Western New York, report their average crops of wheat at only *twelve bushels per acre.* Their corn crops averaged twenty-two and a half bushels per acre only. Next year, we are to have another State census; and we sincerely hope that a little closer investigation into the soil will not be denied the friends of improvement. The Erie Canal enlargement is soon to be completed; and every atom within two feet of the surface of our so-called improved lands that will form wheat, corn, beef, pork, cheese, apples and potatoes, will be converted into these and other staples, and sent to market. The deeper we plow, and the larger our annual harvests, the greater is the lasting injury which we inflict on the natural resources of our virgin earth. Our grand canal conveys a million tons of the elements of fertility taken from the soil to tide water, where it brings back one ton of these elements to restore the great balance of organic nature. However other agricultural papers may blink this question

of killing our goose because she lays eggs of gold, that we may get all she has at once, the GENESEE FARMER, which was the first to condemn this suicidal policy in the Empire State, will never cease to hold it up to public reprobation.

In 1845, the farmers of Erie county planted in corn 10,530 acres, and harvested of wheat 20,433 acres, with the yield per acre which we have already stated. Mr. P'ATTENGILL and others have demonstrated that fair tillage and a plenty of manure are alone needed in that county to bring the average of wheat from twelve bushels per acre up to thirty-five or forty; and the average of corn, from twenty-two and a half bushels up to seventy or eighty per acre. The farmers there do not lack either skill or industry to grow good crops, provided they have within their reach those essential constituents of grain which least abound in cultivated land. The city of Buffalo in that county contains between seventy and eighty thousand inhabitants; and it possesses every facility for supplying abundant manure for ten thousand acres to be planted in corn this spring, and sown to wheat next autumn. Well dressed with night-soil, and the dung of grain-fed city horses, the corn and wheat lands of Erie would produce three times more than they now do; and the farmers who do so much to enrich Buffalo, would in turn be made wealthy by the doubling and trebling of the market value of their farms. Is it not time that the denizens of cities, and the owners and cultivators of the soil in their vicinity, co-operate for the advancement of their mutual interests in the production of corn and wheat?

We should rejoice to meet the farmers of Erie county, and talk this matter over face to face. The agricultural capabilities of that county are large indeed. We have studied its Rocks, its Drift, and its Alluvium, to find out what its soil has, and what it has not, in sufficient quantity to yield large crops of wheat and corn. According to the official returns which we had made nine years ago, the farmers of Erie sowed 1,580 acres in wheat more in 1845 than they did in 1844. In 1845 they reported 224,196 acres of improved land; in 1850 they returned 270,874; increase in five years, 46,678 acres. Erie county still contains a good deal of wild land, although the above figures indicate the interesting fact that from 1845 to 1850 nearly ten thousand acres of native forest were felled and cleared every year within its limits. The last United States census was very defective, therefore we can not say how many acres were harvested to obtain the 242,221 bushels of wheat returned in that county. The crop of the previous State census was 251,781 bushels; decrease, 9,560 bushels, notwithstanding there were 46,678 acres more under improvement in 1850 than in 1845. Our old friends in Erie county ought to wake up, and study their wheat and corn crops a little closer than they now do.

REASONS WHY COFFEE IS NOT WELL MADE.—1st. The berries are frequently too rapidly roasted, their proper color being that of cinnamon. 2d. The coffee is ground too fine. 3d. Not enough coffee is used. It is usually over-boiled, by which the bitter principle is extracted from the berries.

ADDRESS

DELIVERED BEFORE THE FRANKLIN COUNTY AGRICULTURAL SOCIETY (MASS.), OCT. 7, 1853.*

BY DANIEL LEE, M. D.

IN studying the soils it is important to bear in mind that while common stable manure is rarely worth over a dollar a ton, good guano is worth fifty times that sum for the same weight. There are thousands of farmers who are now making three barrels of wheat, or five of corn, from one of manure; and when the cream of the best soils shall become an article of commerce, as I hope it soon will, you may look for a revolution in New England agriculture. You can hasten a material change for the better by encouraging careful and reliable experiments in the feeding of all plants and animals grown in Massachusetts; or you may prevent such change by opposing the establishment of an experimental farm in the State. Beyond all question, tillage and husbandry embrace many experimental arts, and many experimental sciences; and I believe that it is just as easy in a long run to draw the food of annual crops from ten to twenty feet below the surface of the ground, as from ten to twenty inches. The earthy matter that enriches your creek and river flats came from deep ravines, hill-side gullies and mountain gorges, and not mostly from the surface of uplands. Clay washed from 100 feet below the surface, and distributed as mud and sediment over meadows and pastures, rarely fails to enrich them. Witnessing the good effects of such deposits, I am expecting to rejuvenate a farm that was worn out by tobacco-culture before the Revolution, mainly by bringing the deep subsoil to the surface, and depositing it in gently-flowing muddy water. On every square yard of our land there falls about a ton of water in twelve months. A few thousand tons of water falling on the tops of hills on one's farm are no mean mechanical power for spreading the most fertile substances which any farmer can command, over all the ground below. Agricultural mechanics and engineering are in their infancy; and I confess to you my anxiety to see them cultivated in New England, where I am confident they may add four-fold to the intrinsic and marketable value of your farming lands. All the elements of fertility that make your best flats worth $200 or $300 an acre, exist in the atmosphere, in rain water, and in the earths of all uplands, hills and mountains. These abound more or less in agricultural salts, such as I have briefly referred to in calling your attention to the most productive lands in the Union. While I doubt not you would find it profitable to purchase guano, lime, gypsum, ashes and bone-dust, to a certain extent, yet were I farming here I should rely mainly on irrigation, and elements derived from the earth below the soil, and from the atmosphere. While endeavoring to accumulate the essential elements of crops in the soil as a permanent investment, capable of yielding a good interest, I should sell nothing but air off my farm in the shape of choice butter, and the very little earthy matter in the bones and flesh of fat pigs and steers. If I were to burn an ounce or pound of pure butter before you, no ashes or incombustible part would remain. As

* Concluded from the December number.

butter, lard and tallow may be changed into vapor and gas, it is an important question in farm economy how one can best transform vapor and gas into butter, lard and tallow, by the wise use of poor land. How, think you, the atoms of starch in this potato were formed from carbon and water? Although starch, oil and sugar contain no earthy matter, yet to organize these substances something more than vegetable life, carbon and water seems to be necessary.

Finding that half the ash left on burning a potato was pure potash, and that new ground, rich in leaf mold, is much better than old land, from which the soluble alkalies have been washed and leached, or removed in crops, for the production of this tuber, and plants rich in oil and sugar, I was induced to experiment several years ago on the value of potash in organizing starch, sugar and oil. In the seeds of wheat there are six times more of this alkali than lime; and the same is true, I believe, of all oil-bearing seeds, and of the ash of plants that yield much sugar. How far soda may take the place of potash, or magnesia that of lime, in the economy of vegetables, is a matter to be decided by future researches. Soils comparatively rich in alkalies, produce the largest growth of forest trees, particularly Hickory, Sugar Maple, Elm, Oak and Beech.

The pot and pearl ashes made from a ten or twenty acre clearing in Western New York frequently sell for enough to pay the whole cost of felling the timber, cutting and burning it, and preparing the ground for a crop. I never saw any good land that was not rich in potash; and how to extract it from mountains, hills and valleys, for agricultural purposes, is a problem to which I have devoted some attention. It must be done by water, and applied to land by irrigation. All the salts of the ocean are well known fertilizers dissolved in water; and if it were practicable to irrigate a farm with sea water once a year, guano, which is derived from fish and the ocean, would never be needed.

Such irrigation would soon render the granitic soils of New England not unlike those of the Onondaga Salt Group of Western New York. At no very remote period sea water will be evaporated in tropical climates to obtain immense quantities of compound salts required to impart fertility to islands and continents. Oysters and other shell-fish and corals find an inexhaustible supply of lime in the water of the ocean. Whether you study its minerals, its vegetables, or its animals, it is found to be a vast reservoir of manure.

Farmers should take enlarged and comprehensive views of their calling. The resources of nature are unlimited; and we have only to learn ways, and provide means for the wise use and successful application of these elements of power and wealth which everywhere surround us. Agricultural meteorology teaches us that under a temperature of 73 to 75 degrees Fah. solar heat will raise sixty-five thousand tons of water in a day from the surface of a lake two miles square. The mechanical power of this heat may be better appreciated when I inform you that ten steam engines of 200 horse power each could barely raise that quantity of water between 300 and 400 feet in 24 hours. Heat radiated from the sun is the true source of all the water power in the world; as it is also the true source of all the steam power, whether generated by the combustion of coal, wood, or alcohol in a spirit lamp. The mechanical force developed in human muscles, and those of your horses and oxen, has a similar origin. Farmers should study solar heat and sunshine. You have seen corn planted in cold wet ground rot instead of growing in the spring. You have seen it grow feebly, turn pale and yellow, because the earth was cold; and you have seen other corn where the ground was warm, exhibit a deep green color, and grow rapidly. Now, what relation does the growth of this plant bear to the temperature of the soil? Until recently, vegetable physiologists believed, from their limited observations, that the increase of vegetable organization was in the ratio of the increase of temperature, under the circumstances named. But the recent researches of M. QUETELET, perpetual Secretary of the Academy of Science, Brussels, on the climate of Belgium, have shown that the increase of growth is as the square of the increase of temperature in the soil. If a corn plant adds three grains to its weight in 48 hours with the earth in which it grows 15 degrees above freezing, it will add twelve grains to its weight in the same length of time, if the temperature of the soil be raised to 30 degrees above freezing. These facts show you the great importance of investigating the temperature of soils. By allowing our agricultural plants to extend their roots into cold earth that needs under-draining, we diminish our crops of grain, English grasses, roots and fruits, *one-half, and gain nothing.* Water that drains from soils, and that which collects in low grounds and swamps, is valuable for irrigation. It sometimes contains acid salts, or vegetable acids injurious to crops; but by adding a little lime to such water before it is applied to grass land, these acids are corrected, and the calcareous water may be regarded as a weak solution of manure.

By draining and irrigation you may impart a degree of life and growth to vegetation not attainable in any other way. Where it is necessary, water must be lifted by pumps worked by horse power or steam. Occasionally water power may be had; and I have seen wind wheels drive pumps very successfully. Engineering has done much for agriculture by constructing canals and railways; but it is destined to do vastly more by the construction of valuable and lasting improvements on our farms. They are soon to be regarded as manufacturing establishments. We do not make crops, or pork, or beef, or butter, from nothing. A first rate cow gives 24 quarts of milk in as many hours; and in the production of this article, a pound, or a pint, is formed every thirty minutes from her blood. The living machinery by which her food is digested, taken up by vessels, and finally transformed into milk rich in butter, cheese and sugar, is not generally understood by farmers. If this machinery were properly studied, the six million cows now kept in the United States would soon be replaced by improved races that would yield an average of fifty per cent. more milk from the same quantity of food now consumed. The dairy cow which elaborates the most milk, butter and cheese from any given amount of grass, roots or grain, is the one that deserves the highest premium; not the cow which produces the most milk in a week or month, regardless

of the quantity of milk consumed. By awarding premiums on this principle, you will soon learn the exact relations that subsist between a ton of green grass eaten by a first rate milker and the required product in milk and butter. Few know how much good pork or beef 100 pounds of corn ought to produce. Before it is possible to put things together in the most skillful and profitable way, we must investigate the exact relations of these things to each other. In a word, farm economy is at once a collection of experimental arts and experimental sciences, which can only be advanced by wisely conducted and truthfully reported experiments.

It was an early appreciation of the truth of this view of agriculture that prompted me thirty years ago to advocate the establishment of experimental farms to develop new and useful facts in tillage and husbandry.

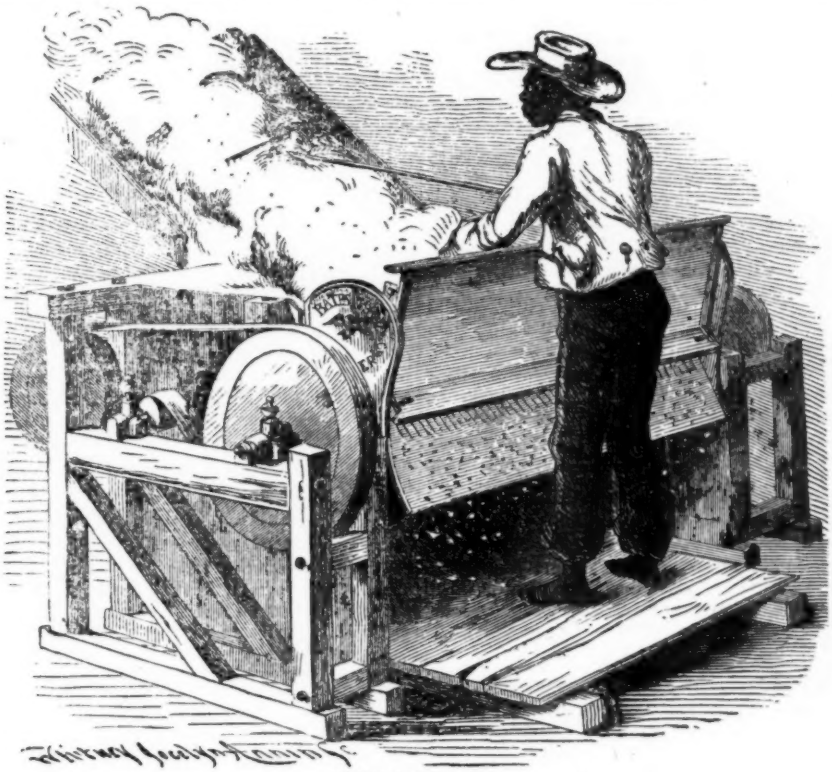
American farmers throw away about a third part of their labor and capital by the misapplication of both, taking the whole country as a mass. As the improvements now in progress by a comparatively few come to be more generally understood, the truth of this remark will not be questioned. Taken together, the improved lands of Pennsylvania are not naturally so well adapted to wheat-culture as those of New York; and while New York has fifty per cent. more land under improvement than Pennsylvania, the latter State grows more wheat than is raised in New York. At the last census Pennsylvania returned more bushels of wheat than any other State; and fourteen times more than all New England. Pennsylvania farmers use more lime by fifty per cent. than is used in New York and New England put together; and even little Delaware is in advance of the Empire State in that regard. Wherever nature has given us a fair supply of the elements of wheat in our soils in New York, we raise generous harvests; but unlike the farmers of New Jersey, Pennsylvania, Delaware and Maryland, we burn little lime for agricultural purposes, and purchase little guano. It is generally thought that it is wiser to sell a poor farm to a neighbor that he may have a larger one, than to purchase lime and manure to render it productive. Hence, New York has furnished tens of thousands of emigrating farmers to the new States at the West. The depopulation of many rural districts is a remarkable feature in American husbandry. Not one of the old thirteen States has escaped the natural effects of our exhausting colonial system of farming and planting. I could name hundreds of towns that now contain fewer inhabitants than they did twenty years ago; and if any body doubted the fact that four-fifths of the land under cultivation in this country suffers constant deterioration, nothing could be easier than to prove the correctness of the statement by statistics and other trustworthy evidence.

Reform is the one thing needful in American Agriculture; but a majority of the people are against it. Not one farmer in twenty in the United States takes an agricultural paper of any kind. Hence, a whole lifetime is exhausted before public opinion becomes sufficiently enlightened even to consider this subject. We cultivate the soil, but we do not cultivate the science of improving it. On millions of acres of our meadows and pastures, moss is gradually taking the place of the best grasses; while no earnest and general effort is made to discover and apply a sovereign remedy. Our fields are clover-sick, our orchards fail, and our domestic animals diminish in numbers, without so much as exciting a moment's serious attention. All our agricultural talk is superficial, and makes no lasting impression on the public mind. To a few, agricultural improvement is a pleasant hobby, who are innocent of any close study of the true principles of rural economy founded on the laws of nature. These principles are as enduring as man on this planet, as important as his necessities arising from hunger and nakedness, and as universal as the blest sunshine of heaven.

It is an unfortunate misnomer to call any system of farming an improvement that fails to make full and perfect restitution to the land for the elements of crops removed, so far as air and water do not supply them. Restitution to the soil is the first and highest duty of every cultivator, and of all others who eat of its fruits. Not until the inhabitants of cities are far more civilized and humanized than they are now, will they begin to appreciate their duty to the land that yields them food and raiment. Until they wisely co-operate with the cultivators of the soil in giving back to it all fecal matters and other fertilizers extracted therefrom, the deterioration of cultivated land will be unavoidable over the whole republic. An intelligent writer in the *London Farmers' Magazine*, for October, estimates the annual waste of manure by the people of Great Britain at fifty million pounds sterling, or $250,000,000; while they need to import this year 18,000,000 quarters of grain, or 144,000,000 bushels. As England grows no tobacco, cotton or maize, and has a climate by no means so severe on tilled land as ours, it would be easy to prove, did time permit, that we waste vastly more of the elements of crops in a year than is wasted in Great Britain. But so long as the people who speak the English language refuse to consider this Food and Raiment question, it would seem to be an idle employment to press it upon their attention. Time will do what no man can accomplish in advance of the ripeness of human folly.

THE COTTON GIN.

In the year 1793, the genius of Eli Whitney did for the planters of the South, what Arkwright, Crompton and Watt had already done for the manufacturers of England. He invented a machine by which the seeds and impurities were separated from the cotton with the utmost facility, and thus gave to American planters the practical monopoly of cotton-growing. There is nothing to be compared with the increase in its cultivation subsequent to Whitney's invention, except the corresponding extension of its manufacture in England. The absolute dependence of the cotton trade upon this single cause is shown by the fact that the States which in 1785 exported five bags, and in 1793 three hundred and seven bags, were able in 1894, the year when the Cotton Gin came into general use, to produce a crop of seventeen thousand seven hundred and seventy-seven bales, of which over three thousand bales were exported. In



EAGLE COTTON GIN.

1849 the export rose to one million five hundred thousand bales, which amount was increased in 1852 and 1853, the whole crop in the United States being about three million five hundred thousand bales.

Among the curiosities at the Crystal Palace in New York, is one of the machines made by the late ELI WHITNEY himself, at New Haven, under a contract with the State of South Carolina. This gin is in the possession of Messrs. BATES, HYDE & Co., of Bridgewater, Mass, by whom it is exhibited. They are extensive manufacturers of the Eagle Cotton Gin, represented in our engraving, which, although modified by improvement of various details and workmanship, still remains substantially the same as in the original invention.

In the year 1792, while residing in Georgia, Mr. WHITNEY had often exhibited his peculiar talents, by various inventions, to gratify the lady in whose house he was a guest. By her he was introduced to several planters as a fit person to give value to their cotton crops, by inventing an expeditious method of cleaning it. He saw how desirable it was, and felt that he could accomplish it. Having provided himself with a quantity of cotton in the seed, which until then he had never seen, and making his own tools, he shut himself up, until, after several months of seclusion, he emerged with the Cotton Gin to testify to the success of his prolonged exertions.

Most gins have about sixty circular saws, not unlike those used for sawing wood, in one machine, which, being driven with great speed by horse-power, cut the lint off the seed, and separate the two—the cotton being thrown out, as in picking cotton or wool, and the seed falling under the machine. Great improvements have been made on the gins invented by WHITNEY since his time.

There is nearly as much land planted in cotton in the United States as there is sown in wheat; and these great staples are of about equal value, take one year with another.

VEGETABLE VITALITY.

ONE of the disputed points in vegetable vitality is the alleged deterioration of plants propagated by buds and bulbs. Our own views on this subject have been often given to the public. They are strongly corroborated in the following article copied from the *London Gardeners' Chronicle*, and understood to be from the pen of its learned editor, Professor LINDLEY. We commend its facts and arguments to our friend Dr. BRINKLIE, of Philadelphia, and Major TOWNLEY, of Wisconsin:

"The species of plants, like those of animals, appear to be eternal, so far as anything mundane can

deserve that name. There is not the smallest reason to suppose that the Olive of our days is different from that of NOAH; the *Asa dulcis* stamped upon the coins of Cyrene still flourishes around the site of that ancient city; and acorns figured among the sculptures of Nimroud seem to show that the same Oak now grows on the mountains of Kurdistan as was known there in the days of SARDANAPALUS. There is not the slightest evidence to show that any species of plant has become extinct during the present order of things. All species have continued to propagate themselves by seeds, without losing their specific peculiarities; some appointed law has rendered them and their several natures eternal.

"It would seem moreover that, with the exception of annuals and others of limited existence, the lives of the individual plants born from such seed would be eternal also, if it were not for the many accidents to which they are exposed, and which eventually destroy them. Trees and other plants of a perennial nature are renovated annually; annually receding from the point which was originally formed, and which in the nature of things must perish in time. The condition of their existence is a perpetual renewal of youth. In the proper sense of the word, decrepitude can not overtake them. The Iris creeps along the mud, ever receding from the starting point, renews itself as it advances, and leaves its original stem to die as its new shoots gain vigor; in the course of centuries a single Iris might creep around the world itself, if it could only find mud in which to root. The Oak annually forms new living matter over that which was previously formed, the seat of life incessantly retreating from the seat of death. When such a tree decays no injury is felt, because the center which perishes is made good at the circumference, over which new life is perennially distributed. In the absence of accidents such a tree might have lived from the creation to this hour; travelers have even believed that they had found in the forests of Brazil living trees that must have been born in the days of HOMER. But here again inevitable accidents interfere, and the trees are prevented from being immortal.

"Species, then, are eternal; and so would be the individuals sprung from their seeds, if it were not for accidental circumstances.

"But plants are multiplied otherwise than by seeds. The Hyacinth and the Garlic propagate naturally, not only by seeds, but also by the perpetual separation of their own limbs, known under the name of bulbs, their bulbs undergoing a similar natural process of dismemberment; and so on for ever. The Potato plant belongs to the same class. Another plant bends its branches to the ground; the branches put forth roots, and as soon as these roots are established the connection between parent and offspring is broken, and a new plant springs into independent existence. Of this we find familiar examples in the Strawberry and the Willow. Man turns this property to account by artificial processes of multiplication; one tree he propagates by layers, another by cuttings planted in the ground. Going a step further he inserts a cutting of one individual upon the stem of some other individual of the same species, under the name of a bud or a scion, and thus obtains a vegetable twin.

"It is not contended, for there is nothing to show, that these artificial productions are more short-lived than either parent, provided the constitution of the two individuals is in perfect accordance. There is not the smallest evidence—it has not been even conjectured—that if a seedling Apple tree is cut into two parts, and these parts are reunited by grafting, the duration of the tree will be shorter than it would have been in the absence of the operation.

"It is nevertheless believed by many that the races of some cultivated plants have but a brief duration, provided they are multiplied otherwise than by seeds. No one indeed pretends that the Garlic of Ascalon has only a short life, although it has been thus propagated from the time when it bore the name of Shummin, and fed the laborers at the Pyramids; nor do we know that the bulb-bearing Lily has been supposed to have less inherent vigor than if it were multiplied by seeds instead of bulbs. It is only among certain kinds of plants that exceptions to the great natural law of vegetation are supposed to exist. It is thought that although the wild Potato possesses indefinite vitality, yet that the varieties of it which are brought into cultivation pass their lives circumscribed within very narrow limits; and the same doctrine has been held concerning fruit trees. The great advocate of this view, the late Mr. ANDREW KNIGHT, rested his case upon the disappearance of certain kinds of Apples and Pears, once to be found in the orchards of Herefordshire, but now no longer to be met with. This he ascribed to cultivated varieties being naturally short-lived, and to an impossibility of arresting their gradual decay by any process of dismemberment; and following out this theory, he strongly urged the necessity of renewing vitality by continually raising fresh varieties from seed. It is difficult to comprehend what train of reasoning led to this speculation. We know that wild plants may be propagated by dismemberment for an indefinite period; we know that when such wild plants spring up from seed the dismembering process still goes on, and still without exhibiting symptoms of exhausted vitality; and yet if a plant grows in a garden, and is brought under the direct control of man, the power is thought to be lost, or so much impaired that indefinite multiplication no longer becomes possible. Can this be true? Most assuredly the cases adduced in support of the doctrine are susceptible of another explanation, perfectly consistent with the general laws of vegetation.

"That renewal by seed will not restore what is called exhausted vitality, was sufficiently proved by the experiments with Potatoes after the blight made its appearance. We were assured by an ingenious writer in one of the daily papers that the constitutional power of the Potato was on the decline; in other words, that the lives of individuals were approaching their end; that the blight arose in consequence, and that a certain remedy would be the renewal of the existing races by sowing seeds. Hundreds joined eagerly in what proved to be the vain pursuit. A worthy armorer at Solingen even published an elaborate pamphlet in support of the idea. 'No more Famine' was his audacious motto—a prediction wofully falsified by the result, for the seedling Potatoes were, if possible, more diseased than their parents."

DISTILLERY SLOPS.

Mr. Editor:—It is pleasant to see at this time of excitement and fanatical attempts at sumptuary coercion, a practically temperate man and a philosopher like Dr. Lee, not afraid to proclaim in the Genesee Farmer the medicinal and mechanical uses of alcohol, rum, gin and brandy, and also the comparative value of still slops made from Indian corn, and the corn itself.

It may be difficult for me to show to the satisfaction of others, that the slop from a bushel of dry sound corn, when ground and passed through the process of distillation, is worth as much for fattening hogs as a bushel of green raw corn, fed as it generally is in the ear, from corn harvest to killing time in early winter. But as Dr. Lee has admitted that there is full twenty-five per cent. loss in the ordinary process of feeding raw corn, this waste is certainly obviated by feeding the fresh warm slop at the distillery. One reason why still slop is generally considered of so much less value than its cereal basis, by those who feed it at a distance from the distillery, is that the acetous fermentation had made the slop sour and unpalatable; whereas, if fed warm and fresh at the distillery, it is not only much more nutritious, but more palatable to the animal, consequently it eats more of it and takes on flesh faster.

It is true that in the process of distillation the starch of the corn is decomposed, and its sugar is nearly all converted into alcohol; still, the slop has all the nitrogenous compounds, and the oil is left in the slop, which, according to Payen and Boussingault, comprises by far the most nutritious and fattening part of the cereals. It is well known how much more valuable gluten is to bread than starch. Boiled potatoes, rich in starch, when added to wheat flour add little to the weight or nutriment of the bread. Southern flour, made of best Virginia wheat, is worth fifty to seventy-five cents a barrel more to New York bakers, solely because it contains more gluten and less starch, than Northern flour, and will make twelve to fifteen pounds more bread to the barrel. The same may be said of rice—a cereal rich only in starch. I once heard a negro complain bitterly when his ration was changed from corn meal to rice, averring that he could not stand it to hoe corn on rice. Why is it that pork and beans are the best aliment to work on, if it is not from the predominance of nitrogen and and carbon, or oil, contained in this food? The loss of the sugar converted into alcohol doubtless takes something from the nutriment of the still slop, but no one will pretend that much sugar is of vital importance to the fattening process.

I hope Dr. Lee will continue the discussion of distillery slops, if it only be to show up the fallacy uttered by some of the New York physicians, that the "milk of cows fed on distillery slop is poisonous," although their *pen and ink analysis* of such milk fails entirely to support the truth of the assertion.

Waterloo, N. Y. S. W.

The only way to decide accurately the relative value of a bushel of corn, and the still slop made from a like weight of corn, for feeding, is by direct experiments for that purpose. So far as we are informed, no one has carefully investigated this question so as to be able to say how much dried slop one hundred pounds of corn meal will produce after fermentation and distillation have been completed. In the simple fermentation of raising dough in bread-making, Dr. Thompson (who was employed by the British government to investigate the matter) found that flour loses six per cent. of its weight. We think that good distillers use up in the production of whisky, and the carbonic acid gas that fills a mash-tub where fermentation is in progress, full two-thirds of the meal. Whatever may be the portion left, it is healthy food for cows giving milk, and for fatting animals, notwithstanding certain medical gentlemen in New York have condemned the use of still slop as food for milch kine. If cows become diseased in the filthy, crowded stables of the extensive distilleries near the great metropolis, the fault is not in any thing extracted from corn, rye or barley, by fermentation or distillation, but is due to bad management. Give to the cows in these stables clean bedding and pure air, by proper ventilation, and the prompt removal of all dung and urine, in addition to a proper proportion of solid feed with their slops, and they will yield as pure milk as can be formed from any corn meal, hay, corn fodder and straw.

Corn contains more oil than any other cereal; and nearly all of this fat-forming element remains in the slop after the starch and sugar of the grain have been transformed into alcohol and carbonic acid. Most of the muscle-forming elements in the grain (its protein compounds) also remains in the slop. Cows, hogs and cattle can never give a profitable return for the slops consumed, unless kept in sound health. Distillers too often overlook this important point, and allow their stables to become foul and pestilent. Against such nuisances every neighborhood ought to protest until they are abated.

One of the best uses that alcohol and whisky can be put to is to transform the spirit into vinegar for pickling cucumbers, beets and other vegetables, and some fruits. Our reading and many years of pretty close observation of the habits and diseases of the American people, lead to the conclusion that they need more vegetable acids to prevent accumulations of bile in the system, and ought to consume less of fat pork, beef and mutton, and perhaps butter. The general prevalence of bilious maladies, arises more from unwise dietetics than bad climates. No vinegar can be formed from apples, grapes or sugar, without first forming alcohol; and our notion is not to stop at this point and consume the spirit in cider, wine, whisky, rum, gin or brandy, but to change all these into vinegar and take it into the system in moderate doses. The physiological value of sour milk, and other acid food, will be discussed hereafter.—Ed.

FARMING IN CALIFORNIA.

Mr. Editor:—When California is mentioned, the first thought is of gold; and too closely indeed are those terms associated for the benefit of our young and growing State. New comers are generally anxious to make their way to the mines with as little delay as possible, expecting to find fortunes without an effort; but a majority are doomed to meet with disappoint-

ment, and are compelled to abandon their hopes of a fortune in a day. They soon discover that our mountains are not all gold, and look around them for other means of obtaining a livelihood.

Agriculture is beginning to receive attention, and already are we realizing Agricultural Fairs, and we have a paper devoted to the interests of the farmer. We are now in the midst of plowing and sowing, which will continue until the dry weather of summer commences. December and January are the best months for sowing wheat, but February will do well, and even when sown in March a fair crop may be expected, though more seed is required. Barley and oats will bear later sowing than wheat. Corn and vegetables need to be planted in March and April.

Seed time here varies with the weather, and must be governed entirely by it. As soon as sufficient rain has fallen to soften the ground, plowing and sowing commence, which usually occur about the first of December. Sometimes the rainy season closes in February, and again it continues till May. The notion prevails here that every third winter we may look for an excess of rain, followed by one of a medium quantity, and then with a dry winter; and such has been our experience thus far. The past winter was the one of excessive rains, and we confidently expect a medium amount this winter. We have had unusually cold weather this season. The thermometer has been sufficiently below "freezing point" to make ice an inch or more in thickness in the valleys, while in some of the mountain towns it has been down to 16 degrees, with sufficient snow for good sleighing. The coast range of mountains have been covered with snow, but we have had none here. The "oldest inhabitant" has not seen it so cold here before, and the "natives" blame the Yankees for it.

That vegetables grow very large here, and that yields of grain are great, can not be doubted; but I will refrain from giving figures, for fear I should be accused of exaggeration. Suffice it to say, that I have never seen the like in the "Genesee Valley."

The high prices of teams, labor and tools, operate hard against persons commencing a new farm here. Another item of great magnitude here is fencing. Ditches are resorted to, and some wire fences are made. Often several farms are embraced in one enclosure. There are many persons turning their attention to cultivating Osage Orange, and I hope they may succeed. There is no scarcity of timber here, but it is generally at too great a distance from the best farming regions to be made available, at present prices of lumber and transportation. In many of our best farming regions but little attention is paid to fruit, on account of the uncertainty that yet exists concerning land titles. No action is regarded as final until decided by the United States Supreme Court. More anon. Yours, &c.,

Benicia, Cal., Jan. 28, 1854.

The writer of the above letter will please accept our thanks, and continue his communications for the pages of the Farmer. California is destined to be more famous for its agriculture and horticulture in a few years than for its gold mines. To commence farming in a country where labor is high, fencing timber scarce, and irrigation often necessary, requires considerable capital; but the soil, climate and markets of the Pacific State offer such advantages as will soon command the funds necessary to render California the best cultivated district in America. Its natural ranges for stock have no equals on the Atlantic side of the Rocky Mountains; but like all new countries on this continent, its border population and Indians, its numerous privations and perils, are great drawbacks to be offset against its many inviting benefits. California, Oregon and Washington are full of interest to the enterprizing citizens of all other parts of the republic; and our subscribers on the Pacific (of whom we have a goodly number) will render a favor by giving to this, the first fifty cent agricultural paper in the world, and its readers, reliable information concerning their farming operations. —Ed.

INDIANA FARMING.

Mr. Editor:—The time has at length arrived when our farmers (or a portion of them) begin to appreciate the value of *good* farming—they begin to see the value of *system* in conducting the affairs of husbandry—and they have learned that there is something more to do than to *scratch* the ground, and plant or sow the seed.

The great secret of successful farming is a *thorough preparation.* No judicious farmer will undertake to plant or sow an acre of ground, without a previous and well-conducted preparation of the soil, knowing that he can not realize a sufficient profit without such care. I want to say that I believe there is nothing so injurious to farming lands as the *tramping* system (I speak of clay soils); letting stock of any kind run on the fields when they are wet, in the fall, winter and spring, is not to be allowed by the *scientific* farmer. I know there are some farmers who do not like to be thus restricted; perhaps they may never know of these *new* ideas (they are not book farmers). Stock should never be allowed to remain on clover pastures after the wet weather and frost come on in the fall. If they are, I will venture the opinion that they will destroy more clover, and injure the land more, than they will be benefitted. In vain may the farmer try to prepare his fields in the spring, after they are *tramped* into mortar. I would rather let one of my fields be planted or sowed in any kind of grain, *rent free*, than to have them thus treated. If this *system* is not attended to in a just and proper manner, in vain may the farmer look for any good results from his labors.

If the fields have become exhausted, which they will under the *tramping* and *skinning* system, they should be *fatted;* and I think we will meet with very poor success, so long as we continue to tramp and remove from the fields Nature's great *restorative.* I believe that a preparation is just as necessary as anything else in farm economy. If the fields are treated right, when the spring comes on the farmer can go to his plowing in good spirits, with a fair prospect of success. He can do more plowing in a given time, and do it better, than those who have plowed their ground to death. He can with an ordinary team and a *good plow* (this farming implement is indispensable), turn his ground full *eight inches deep,* throwing the loose

mellow soil full three inches more, making eleven inches in all, which would compare favorably with ordinary *union beds;* then harrow and furrow out the land at right angles three feet and a half. This is my plan. I prefer close planting, as it protects the land from the scorching rays of the sun. If the seed corn is good, it is very rare if there is any *replanting* to be done. The failure of corn to come up well is oftener caused by the failure to prepare the ground right than any thing else.

In cultivating corn, I prefer the *double shovel* to any thing I have seen yet. By passing between the rows twice, the ground is all thoroughly stirred, and the weeds and grass destroyed. As the shovels are small, they leave the rows nicely pulverized and level. Four times going over is all sufficient, which is easily and soon performed, compared with the tedious hilling and hoeing system, which should be abandoned. It is obvious that this plan economizes both *time* and *labor*, which are two important items. But this is not all: there being but little earth thrown around the plants, the sun has double the power to *warm* the roots of the corn, enabling it to send out its roots long and strong; the corn having a good *foundation*, shoots up vigorously, and will be well supported by *spur* roots, and will stand a gale much better than when cultivated under the old plan.

JAMES H. ARNETT.

ECONOMY, Wayne Co., Ind.

GOOD TILLAGE A PREVENTIVE OF DROUTH.

MUCH ESTEEMED FRIEND, DANIEL LEE:—Last summer was an exceedingly dry one; no rain fell from about the 18th of May till the last of July that wet the earth half an inch deep. But this drouth verified an idea held forth by scientific agriculturists which I doubted much, namely: that when the earth possesses the requisite elements necessary for a good crop, and being in proper culture, a quite small quantity of rain was needed; or, in other words, when the farmer had done his part, he need not dread drouth. This I did not believe—I thought it impossible—but I am now perfectly satisfied. Part of my little corn-field laid below a manure yard, and part had been covered for years with manure, and another spot had for years a smith's shop, garden and yard on it. On the latter spot the corn grew luxuriantly, and when coming into tassel and silk much of it on the other parts of the field was but six or eight inches high, and through the day was shrunk. It was so remarkable that I called my wife to see the wonderful difference. It seemed to me almost a miracle to see with what vigor it grew on the enriched ground, bidding defiance to drouth. Here large, excellent corn grew, while on the impoverished part diminutive nubbins only were found. Now, I know that we need only to supply the elements which make a plentiful crop—pulverize the soil *deep*—and we shall be well rewarded, although drouths prevail. I am perfectly satisfied of this, as the corn on the different localities had exactly the same advantages of culture, rain and dews—the only difference was in fertility.

The superior advantages of deep plowing were also more fully developed during the drouth than I had witnessed before. I plowed the ground, with the exception of one acre, in December, as deep as possible for two horses—from six to eight inches; and plowed again before planting, and pulverized the soil as well as I could. The result was that the soil contained an incredible amount of moisture; it really seemed to draw water out of the air. I have long been of the opinion that plowing ground in the fall for corn has a good effect on the coming crop; but I found no advantage from plowing last fall, as the acre I plowed only in the spring did rather better than that plowed in the fall. It may be that it was plowed too late, as all vegetation had ceased (about the 10th of December); I think it should be done before vegetation ceases—say the last of October or first of November. The white clover and blue grass had vegetated considerably when the ground was plowed the second time, just previous to planting; but the land being pretty stiff clay, and beaten by rain, it became too solid for the germs of the grass to penetrate. When turned up it looked as if a slight snow had fallen—all white. But the dry weather which followed killed it, and I had no trouble. I still believe corn and garden ground should be plowed in autumn. By plowing before vegetation ceases entirely, the germs of the grasses will be smothered. I have seen a corn-field part of which was so plowed and a part in the spring just before planting, that afforded the most conclusive evidence in favor of fall plowing. The corn on the fall plowed ground stood regularly, while that plowed in spring had not over a tenth part left by the grub worm. Let me say to our brother farmers: enrich the soil—plow deep—pulverize well—keep the corn clear of grass and weeds—stir the ground with the cultivator or corn harrow (the drier the weather the oftener, it matters little how dry)—sow that which is in a good condition at planting—and you will have a good crop.

A most indolent and pernicious practice prevails with farmers over a great extent of the wheat section of our country. I mean to stack in the field, where, after threshing, the straw is left in piles to decay as it can, instead of building barns for its reception, where it should serve as litter for the animals, and be converted into manure to feed the starving plants on the robbed, impoverished soil. Here and there in spots, burs, docks, Spanish needles, and other noxious weeds grow; it is a nursery from which the whole fields are made foul, and the result is from five to ten bushels to the acre, with flocks of dark sheep carrying loads of the noxious seeds, performing the *office of sowers*. Yet the slovenly owner of the abused soil reflects, and often heaps anathemas, on the Maker of the soil! But as long as there is fresh soil West out of which to swindle the helpless Indian, our farmers will neglect the soil at home and encroach on the children of the wilderness.

Somewhere in one of the volumes of the FARMER I read a mode by which any one could analyze soil; but I do not know where to find the article describing the mode. Perhaps you could give the process in a future number. I am aware that such an analysis would not be perfect, but it would perhaps subserve a good purpose. I have put up two specimens of soil—the one on which good corn was grown, and the other whereon not a tenth as much grew—and should

be glad to have them analyzed, but I am too limited in means to forward them where it could be done scientifically.

Should the association to promote agriculture—of which you said something in the November number, and again in the January number in reply to friend NEBINGER—go on, set my name down as one of the *thousand*.

I have often thought of giving you a cure for the distemper in horses, which proved very beneficial a number of years since. I now give it. I had a mare which was so far gone that I gave her up, but it occurred to me that lime water might do some good. Accordingly we drenched her with one quart of lime water; in a few seconds the mucus so flew from her nostrils and the excrescence from behind against the wall, that we burst into a laugh. The mare recovered perfectly. She had a colt which had not yet been weaned, and which was so far gone it could just walk. I told my little boys to lead it to the woods and shoot it, to save the trouble of hauling it away. But my boys asked whether it should be theirs if they cured it? to which I quite readily assented. They gave it nearly a quart of lime water, and it recovered and became quite a hardy animal. Since that time I have had no case of that disorder, or I should have tried the same remedy.

Most respectfully your sincere friend,

ABRAHAM BAER.

WEST CARLISLE, Coshocton Co., O.

POTATO INSECT.

MR. EDITOR:—Having a few names to send for your valuable journal, I thought I would inform you of a discovery I made, that I believe to be the cause of what is generally called the "potato mildew." In 1852 I had a patch of potatoes that looked very fine, and grew luxuriantly. Sometime in August I observed that they were turning yellow, and some of the vines quite dry. I examined the dead vines, and found that they were all hulled out. I then examined some of the sickly vines; in them I found a small white worm, from five-eighths to three-fourths of an inch long, which had bored a hole not larger than a fine knitting needle from the root to near the top of the vine; it then went downward again and hulled out the vine, and then worked a net around itself, like a silk-worm. Some that I examined were white, and the shape of a small bug. I put one in a vial, and in a few days it escaped from its shell like a locust, and became a small brown bug. My potatoes were all affected the same way, yet the yield was good, although the vines had all wilted and died a month before we raised them. Last year they were attacked the same way with the bug, but the yield was not over one-half as good as in 1852. If I am not mistaken, it is the same bug that congregates by thousands in the months of September and October on horse droppings, &c. I wish some of your scientific subscribers would investigate the matter more closely, and give us their opinion on the subject.

Very respectfully, yours, THOS. HARPER.

BERRYSBURGH, Dauphin Co., Pa.

We first discovered the *larvæ* of this insect at work in potato vines in July, 1845; and we gave some account of their ravages in the August number of the GENESEE FARMER of that year. Since then several gentlemen have seen and partially described this depredator, and some have supposed that it is the sole cause of the premature rotting of potatoes. Such, however, is not the opinion of Dr. HARRIS, of Cambridge.—ED.

CHIMNEY SWALLOWS.

MR. EDITOR:—Among the "Items from the Patent Office Report for 1852-3," published in the January number of the FARMER, I discovered a recommendation for the propagation of swallows, particularly chimney swallows, with the view of securing wheat crops from the ravages of weevils and Hessian flies. Says the writer: "Now, if these birds can be multiplied to any desirable extent on every farm, I submit whether their being so multiplied would not insure our wheat crops against the ravages of all insects?" After speaking of the care and favor shown them, the writer further adds: "My colony of swallows has become quite respectable in numbers, amounting to something like one hundred in October last. I have been but little, if any, troubled with the fly, and with such an effective corps of champions I feel quite secure from the ravages of the vandal insect."

Now, for the last two or three years I have been much annoyed with the chimney swallows, having a much more formidable colony than is boasted of by the writer in question—numbering, as I supposed, near three hundred, the two past years—still my wheat crop was much injured by the fly the past summer, and I doubt not it would have shared a similar fate with ten times the number spoken of by him. That the swallows are busy birds all must admit, yet at the same time I can not harbor the thought for a moment that they alone have been instrumental in bringing about the general good luck spoken of by the writer, so far as wheat raising is concerned.

Yours, respectfully, JOHN P. BRADY.

WHITCOMB, Franklin Co., Ind.

MR. EDITOR:—Having at a former period been engaged somewhat extensively in distilling, I am enabled to say to "M. W." and to all others whom it may concern, that the slop from the distillery will make seven pounds of pork for every bushel of grain used. I worked one bushel of rye to two of corn. After twelve years' experience on a farm, I estimate one bushel of corn to make eight and one-third pounds of pork, when fed in its raw state. To obtain good results in every case, your hogs must be kept comfortable and healthy, and not allowed to waste their feed.

The inquiry of "A. B." in the February number of your paper, is one of interest, and not very easy to answer. Much, however, I think would depend on the kind of timber occupying the land. An acre of Maple and Elm timber would contain more than a ton of potash, which left on the ground could not fail to be of great and lasting benefit to the soil; while an acre of Hemlock timber contains very little, if any thing, that would benefit the soil, and much that is

positively injurious. Again, while hard timbered land is not benefitted by burning the surface, land timbered with Hemlock is worth very little for a number of years unless the surface gets a good scorching. It is known also that old logs and decaying timber favor the accumulation of nitre in the soil.

WATERFORD, Erie Co., Pa. J. R. TAYLOR.

SUPERPHOSPHATE OF LIME.

Now that crops of all kinds are unusually valuable to the producer, how to prepare bones for immediate use and consumption by growing plants is a matter of interest to thousands. We know of no better way, where one can obtain oil of vitriol, than that described below by THOMAS SIM, of Libertytown, Md., in the *Farm Journal:*

"In the preparation of the soluble phosphate of lime, a state in which it always exists in nature, these facts seem clearly as established: The first is, that one-third of sulphuric acid, known as the oil of vitriol, of proper specific gravity, is needed. The second fact is, that this acid should be diluted with three times its bulk of water, otherwise it will char and not dissolve the bone. The third is, that the finer bones are ground or crushed, the more readily and perfectly will the compound be found. These facts being settled, the lamented NORTON, Dr. HIGGINS, our own State Chemist, and some others, direct that acid, as above diluted, should be added to the bones by degrees, agitating the mass frequently from ten days to two weeks, at the expiration of which time the compound would be ready for use. As this is a tedious and laborious process, I have sought to supply its place by another and less objectionable one, and have succeeded in a manner which I shall now give, and which, as you will see, is so simple as to be accessible to all.

"I procure tubs of a capacity and number to suit the amount of superphosphate I wish to prepare, common meat tubs answering the purpose perfectly well. Into these I place my bones, carefully moistening them with water as I fill up the tubs, in which condition I permit them to remain twenty-four hours, at the expiration of which time I find them heated to a high degree, which facilitates the action of the acid upon them. I now dilute the acid in a separate vessel; and after the heat evolved by the unison of the acid and water has subsided, I pour it, in small quantities at a time, upon the bones, carefully stirring the mass so as completely to mix the acid with the bones, and continue to do so until all the acid is mixed with the bones; after which I cover the tubs carefully, so as to retain the heat. A thorough stirring and mixing of the mass will be needed three or four times for twenty-four or thirty-six hours, at the end of which time the process is completed, and a better article furnished than can be obtained by the method of Professor NORTON after full two weeks of care and toil.

"At this stage of the process the superphosphate is a pulpy mass of the consistence of soft soap, and of course unfit to sow broadcast, or to be regularly applied to the soil. To prepare it for this purpose, I strew upon my barn floor saw-dust, dry mold, or well leached wood ashes, from two to three inches thick; upon this I spread the compound as evenly as I can, then cover it with more of the same article used to dry it, and proceed with fork and rake to mix up the whole mass until it is intimately incorporated, when it is fit at once to be put upon the land.

"The superphosphate of lime is held by intelligent and judicious farmers, both in Europe and America, to be one of the most valuable fertilizers, and when suitably applied is capable of producing the most astounding results. To the American farmer it is easily accessible, and perfectly available, at comparatively low cost. From my own experience in its use, I am warranted in saying that it will repay its cost more than three fold when judiciously used."

ARTIFICIAL BREEDING OF FISH.

AT a recent meeting of the Farmers' Club in New York, the subject of the artificial breeding of fish was discussed, and facts of some interest were elicited. It would seem that Mr. JACOBI, of Hanover, bred fish forty years ago in vast quantities, particularly of salmon, trout, and other fresh water fish. The common carp was introduced into England in 1514. Its favorite residence is in slow and stagnant water; and it unites rapidity of growth with longevity, and is very fruitful. A single carp has been known to produce 342,144 eggs at one time. It is a hardy fish, and may be imported alive, or its spawn may be put up and transported in jars, as is practiced in similar cases by the Chinese.

We make the following extracts from a letter from J. G. ADAMS, M. D., of Paris, on the artificial method of breeding fish in France. He says:

"The eggs selected have been those of trout and salmon. They are brought in boxes from different points, the eggs being laid in layers between the fresh leaves. The boxes may be tight, and if kept in a moderate temperature may in this way be transported an immense distance, as some have been from fifteen to twenty days on the journey. There seems to be nothing to prevent a system of international exchanges of fish eggs, which shall be equally successful with that established by that most excellent and distinguished man, Mr. VATTERMARE.

"The eggs after forty days are hatched, and the young trout and salmon are seen swimming about in one part of the trough, while in a different part of it the eggs are seen in different stages of incubation. Fishes of the size of eight and twelve inches in length are exhibited in the laboratory at Paris. The preliminary process consists in taking the female fish at the proper season, and squeezing out with the hands the ova at certain intervals into a glass basin. The male fish is afterward treated in the same way, the two fluids being mixed with a glass rod in the basin until they acquire the consistence of skim-milk. In breeding fish in lakes or ponds, a tin box perforated with small holes is used to protect the eggs from being devoured by other fishes."

After the Secretary had finished, Mr. R. L. PELL, of Pelham Farm, was called upon to speak on the subject. He said:

"Last summer I tried a very interesting experi-

ment with the ova of fish, which gave me infinite satisfaction, and proved conclusively to my mind the possibility of importing from any part of the world prepared spawn, of almost any variety of fish, and hatching the same, without much possibility of failure. The experiment was thus: Two men were ordered to draw their net in the Hudson River late in the shad season, and the females caught were gently stripped from the gills down, and their ova permitted to fall easily in a tin pail one-third full of water; the males were then served in the same manner, and their milt allowed to come in contact with the ova of the females; the mass was gently stirred, and thus impregnated, placed in a pond a few inches under the surface of the water, near the inlet, and covered partially with gravel. In a few weeks small shad were produced in great numbers. I have sent to England for the ova of the barbel, carp and tench, and propose in the spring to obtain the roe of the salmon from the east, and plant it in the creeks entering the Hudson. Although the salmon is a sea fish, their ova can only be hatched in fresh water, and the young fry can live in no other until about two ye rs old. It would be an easy matter for gentlemen residing on the Hudson River, between New York and Peekskill, to stock the salt water coves, formed by the Hudson River Railroad, with fine varieties of English fish, by importing impregnated spawn; for example, the famous sole, turbot, mullet, whiting, brill, gray, plaice, whitebait, coalfish, anchovy, &c. At the expiration of three years our coasts would produce an inexhaustible abundance of these delicious fish, many of which might hybridise with ours. I propose to apply to the Legislature, during its present session, for the enactment of a law making it incumbent upon all persons in the State who derive their livelihood from the capture of fish, to plant each season a certain quantity of impregnated spawn on their respective fishing grounds, under the direction of the magistrate of the district in which the fishes may be situated."

PLOW VS. SPADE.

WHICH is the better implement? That is the question. The rhodomontade of GISBORNE, and the letter of our good correspondent "SIXOPE," have between them brought this cause to trial. We appear for the defendant.

The case of the plaintiff, as we understand it, is that the plow is a reality and the spade a humbug; that the plow is an implement of unknown antiquity, the value of which is established by usage beyond the memory of man, while the spade is a poor, insignificant modern contrivance; that the plow always beats the spade, as any country gentleman who grows potatoes very well knows, because the first is more efficient than the spade; that the plow is wonderful upon "cloddy" land, where the spade is powerless; and finally, that the spade led to Irish pauperism, leaving the plow to remedy the mischief. Such appears to us to be the plaintiff's case as far as it can be collected from the pleadings in GISBORNE'S *Essays on Agriculture*, edition of 1854, pp. 247 and 248.

To this we answer, that of all the misstatements of which we have knowledge, the plaintiff's are the greatest; that there is no truth in any one single allegation; and that the real difference between the respective cases of PLOW and SPADE, a difference we are far from denying, was either unknown to him, or not mentioned, and such as in no degree affects the main argument. We say that in reality the plow belongs to the category of barbarous implements, such as hatchets and adzes, while the spade is a distinguished member of the family of saws and planes. As none but a barbarian would place a hatchet above a saw, or an adze above a plane, unless in exceptional cases, so must it still be a barbarian who would think of giving precedence in rank to PLOW OVER SPADE.

For what is this plow, this much vaunted implement, really good for? Can it break into the depths of the soil, and continually bring to the surface the unexhausted and inexhaustible elements of fertility? Can it turn up land two feet deep? Or having so turned it, can it leave behind, in a loose permeable state, the earth in which roots are to penetrate? These are the results which are attained by the spade, and they are results to which the cultivator, be he farmer, be he gardener, must mainly look for any great improvement in his crops. But the plow can do nothing of the kind. At the worst it scrapes away the surface of the soil, or turns in a little stubble, or pretends to bury weeds; at the best it loosens the staple a few inches deep, but the deeper it goes the more it compresses the soil over which it travels, consolidating on the one hand as much as it loosens on the other.

Deep cultivation is indispensable to complete success in husbandry; the plow is but a shallow operator; therefore complete success in husbandry is unattainable by the plow. That is a fixed principle, the truth of which all good gardeners fully understand. Their whole practice is founded upon it; as is clearly pointed out by Mr. BAILEY, himself one of our most experienced horticulturists, in an excellent article published in our columns a week or two since.

No where are crops so heavy as in good gardens; no where is land so fruitful. People say that this is owing to manure; but many of our readers can tell a very different tale; for they know from experience that the steward or farm-bailiff takes especial care that the gardener is not over-supplied with so valuable an article. The reason is that the plow is not a garden implement; the trust of a gardener is in his spade. Not that we deny in any degree whatsoever the importance of manure; it is wanted in a garden much more than in a farm, for without it heavy root crops and succulent vegetables are unattainable; while it is as certain as any thing can be that in good land cereal crops do not need manure, provided they have proper tillage. We say this to prevent misapprehension, although it is immaterial to the question now before us, which should be strictly limited to the comparative merits of the plow and the spade as implements for cultivating land.

Mr. GISBORNE says: "Do the roots of esculents wish to penetrate into the earth, at least to the depth of some feet? We believe that they do. We are sure of the Brassica tribe, grass, and clover. All our experience and observation deny the doctrine that roots only ramble when they are stinted for food; that six inches well manured is quite enough, better than

more. Ask the Jerseyman; he will show you a parsnip as thick as your thigh, and as long as your leg, and will tell you the advantages of fourteen feet of dry soil. You will hear of parsnips whose roots descend to unsearchable depths. We will not appeal to the Kentucky carrot, which was drawn out by its roots at the antipodes; but Mr. MECHI's, if we remember right, was a dozen feet or more. Three years ago, in a midland county, a field of good land in good cultivation, and richly manured, produced a heavy crop of cabbages. In November of that year we saw that a field broken into in several places, and at the depth of four feet the soil (a tenaceous marl, fully stiff enough for brick earth) was occupied by the roots of cabbage, not sparingly—not mere capillæ—but fibers of the size of pack-thread."

This is an important admission on the part of the plaintiff in the case before us, although what every gardener knows to be true. Such being the fact, let us ask how far the plow is capable of rendering land fit for the vigorous growth of plants whose roots commonly penetrate the soil even two or three feet. All the plow can do is to loosen a few inches of earth upon the surface; what lies below it has never been moved from the day when the plow was a crooked stick dragged by an ox. The spade, on the contrary, penetrates the soil to any depth which may be required, mixes the particles thoroughly, and leaves them loose, with free access for the air and water upon which the deep-searching roots are nourished. The depth to which a plow can go is limited by its own nature; the depth to which a spade can operate is limited by expense.

In fact, the question is one of cost, and of nothing else. It can not be seriously contended that the plow is in reality so efficient as the spade; all that can be rationally insisted upon is that it is far cheaper. Into that argument we need not enter; we may indeed concede the point without injury to the case of our client, who can afford to be regarded as a costly operator, if his efficiency is unimpeached.

But need the spade be for ever costly? Is mechanical skill so low that no means can be found of impelling it by other hands than those of man? We have seen the flail disappear before a small machine; we have seen the human fingers replaced in a cotton mill by joints of iron obeying the impulse of machinery; we have the hand replaced by a few knives in carving figures out of paper; and can no one discover how to represent the thews and sinews of a peasant by similar contrivances? To say so would be to libel the mechanical skill of the age; and we confidently believe that the immense superiority of the spade over the plow having been once admitted in the abstract, we shall at no distant period find our laborers directing fire and water to execute their will, instead of exhausting their own powers in an eternal struggle with mother earth. Whenever that occurs we shall know how to appreciate the real fertility of our land—and not till then.—*London Gardeners' Chronicle.*

SIR JOHN SINCLAIR says that agriculture, though in general capable of being reduced to simple principles, yet requires on the whole a greater variety of knowledge than any other art.

GARGET IN COWS.

AT the solicitation of a friend who has saved a valuable cow from the hands of the butcher, I am induced to make known through your columns a remedy for the garget. Some years since, I met with a fine imported Durham cow on the way to the butcher, the owner parting with her in consequence of her being afflicted with the garget. The owner had tried all the usual modes of eradicating the disease, after which he put her under charge of a distinguised veterinarian, who, after six months' attendance, discharged her as *incurable.*

Deeming her a good subject for a treatment with iodine, and not knowing whether it had been used in the case, I purchased her at what she was worth for beef. At that time she gave but a few drops of milk at a time from one teat, the other three having ceased to yield any; the udder and teats were swollen and hard. I determined to make use of iodine in the form of hydriodate of potash, being solvent in water; and if it failed to exhibit its effects on the system, I would resort to an ointment (20 grs. iodine to 1 oz. hog's lard), applied externally to the udder and teats. I commenced by giving 10 grs. of hydriodate of potash in a table-spoonful of water three times a day, mixed in a mass of shorts or meal; and though the dose was unusually small for a cow, still as it was giving unmistakable signs of effect,* I did not increase the dose. In seven days she gave milk freely from each teat, and in three weeks she was discharged as cured. The result in the foregoing case was so favorable, that I advised my neighbors, who had cows afflicted with the garget, to make trial of the same remedy. I have known of its trial in at least forty cases, and in every one the cure has been effected with even the above-named small dose. A larger quantity could be used at a dose with safety.

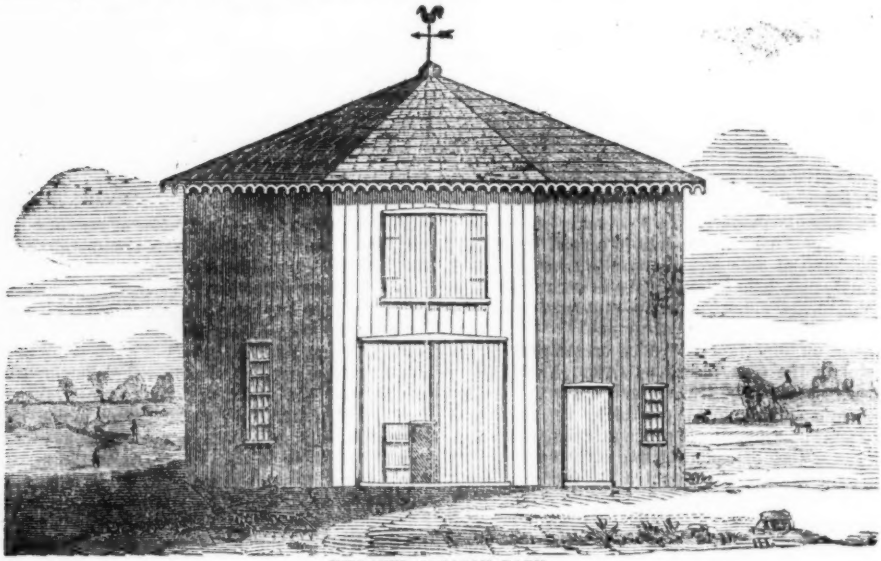
Any one acquainted with the effect of iodine on the human system, knows its tendency to produce an absorption of the mammœ. Dr. R. COATS, of Philadelphia, reports a case in the *Medical Examiner*, of the complete absorption of the female breast from iodine; but the mammœ recovered their original developments after the lapse of a year. Iodine is principally employed in diseases of the absorbents and glandular systems. [See U. S. Dispensatory.]

Hydriodate of potash can be procured of any apothecary, and dissolved so as to allow 10 grains to each spoonful of water, increasing the doses till it gives effect on testing the urine.—*Eben Wright, in the Boston Cultivator.*

OCTAGON BARNS.

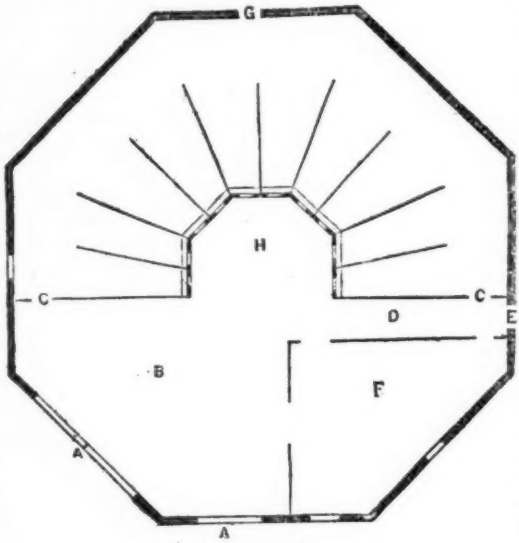
FOR dairy purposes, and fattening neat cattle, octagon barns present advantages over all others, as one can have the feed for all at the center of the barn. Mr. CALVERT, near Washington, D. C., has a barn of this kind over 100 feet in diameter, with two rows of stalls for cows on the eight sides. Mr. C. has an estate of three thousand acres, and few farmers

* Hydriodate of potash passes quickly into the secretions, especially the urine. It may be detected in the latter by first adding to the cold secretion a portion of starch, and then a few drops of nitric acid, when a blue color will be produced.



IMPROVED OCTAGON BARN.

need a barn as large as his. We give in this connection drawings and a description of one much smaller, which is a comparatively cheap and very neat affair. The barn is 32 feet in diameter; each side is 12 feet long. Our engraving shows a side elevation. In the ground plan A are large doors by which the space B, allotted for wagons or carriages, is entered. C, doors leading to the stables. D, passage way, with door, E, at one end. F, grain and root room. G, barn-yard door. H is the feeding room, in shape half octagon. Here the cutting boxes, &c., can be arranged. Apertures into the various mangers are indicated by little openings; thro' these all the hay and other food for the stock is put. Hay from the loft above is thrown down by means of a trap in the floor over H. The stalls being all arranged in a somewhat circular manner, the feeding is quickly accomplished, and the animals easily secured. In the hay-loft above, there being but one small space required in the center for the fodder to be thrown down, a much larger quantity of hay can be stowed than in barns where there are racks at the sides, which prevent full stowage.



GROUND PLAN.

CHEESES WEIGHING OVER FIVE HUNDRED POUNDS EACH.

Your Committtee also with pleasure report, that two very superior cheeses, both in quality and appearance, weighing together over a thousand pounds, were exhibited by Jesse Williams, of Rome, Oneida county.

The samples, weighing over 500 lbs., each stood erect and in as perfect shape and condition as a cheese not weighing over 50 lbs., and upon examination proved of most excellent quality, having cured as thoroughly as those of smaller size and same age. A special premium of $25 is recommended to Jesse Williams, of Rome, Oneida county, for this fine production of the dairy, which was an ornament to the show and very creditable to him as a dairyman.

Method of Manufacturing the two large Cheese, by Jesse Williams.—These samples of two large cheese, offered for exhibition by the subscriber, were made on the 13th and 17th of July, from the milk of about 200 cows; two milkings, without the addition of cream. The process as follows: The night's milk was strained into

two tin vats, placed within two wooden ones, with a cavity of one and a quarter inches between, into which cold water was introduced at one end and discharged at the other, at an elevation sufficient to float the tin vats, and kept running through the night, stirring the milk occasionally until cooled to about sixty degrees. The morning's milk being added, the temperature was raised to about eighty-five degrees, when a small quantity of annatto and sufficient rennet to coagulate the milk in about fifty minutes were added, and the vats covered with cloth to retain the heat. When sufficiently hard, the curd was cut into squares of one and a quarter inches, and allowed to stand until the surface was covered with whey, when it was gently broken with the hands; at the same time the temperature was raised to about ninety-five degrees, by forcing steam into the water between the vats; when the curd was made fine it was allowed to settle, and the whey drawn from the surface with a syphon, when it was again broken with the hand and the heat raised to ninety-eight or a hundred degrees, and kept at that temperature, being stirred occasionally to prevent packing until sufficiently hard for the press, when it was dipped into the sink, drained, and salted with three pounds ASHTON'S Liverpool salt to one hundred pounds curd; pressed forty-eight hours in a screw press, being turned once and bandaged in the time; then removed to the cheese-house, greased as often as necessary to prevent cracking, and turned and rubbed daily. The rennet, when taken from the calf, was cleaned of its contents, salted and stretched on a stick to dry, and when wanted for use, soaked in strong brine until the strength is well drawn and the liquor only used.

SWISS CHEESE.

This article is being manufactured in various parts of our country, and is supplanting to a considerable extent the imported article. Two cheese, weighing fifty pounds each, were exhibited at the fair by GILGIAN EGGER, of Annsville, Oneida county, a Swiss farmer, who is deriving a very handsome profit from his cheese. It sells readily in New York market for sixteen cents per pound.

Mr. Egger's Method of Manufacturing Swiss Cheese.—The two cheese exhibited were made from two milkings *of twenty cows.* No additiou was made of cream. The cream was taken away from one milking of one of the cheeses. One pint of rennet to fifty pounds of cheese, of strength so that one tea-spoonful thickens half a cup of milk. I blow up the rennet like a blister, so it will dry quick, then take a little piece every day and soak it three days (not over that). I press it as quick as possible after it is made. I use the common salt, of any description. I set the milk at eighty-two degrees Fahr. The curd is broken very fine. I scald the curd at a hundred and twenty degrees of the thermometer. After the cheese is pressed, it is put in cold spring water for five or six hours. No salt is put in the curd, but it is salted on the top after it is made, through the summer, until it is four or five months old. It requires from four to five quarts of milk for one pound of cheese.—*Extract from Rep. of Com. on Cheese, in Trans. N. Y. State Ag. Soc.*

HEMP is a native of Persia and the East Indies.

OIL OF PEPPERMINT.—Dr. VAN SLYCK, one of the editors of the *Farming Mirror*, thus notices the cultivation and value of peppermint, in a recent number of his paper: "One of the most profitable sources of agricultural wealth the present year is the culture of peppermint, the oil being worth nearly or quite $4 per pound. An acre of good peppermint will ordinarily yield 25 pounds of oil, though the severe drouth this season will render the yield something less, and the cost of a pound of oil is nearly the same as that of a bushel of wheat. The very great fluctuation in the price of peppermint oil, however, renders it a product of uncertain value. We furnished a detailed description of the cultivation of this article for the Agricultural Report of the Patent Office for the year 1849, to which we refer our distant readers, should they desire to obtain further information in relation to it."

AGRICULTURAL IMPROVEMENTS.—Since the days of Sir JOHN SINCLAIR—the esteemed friend and correspondent of WASHINGTON, and one of the great men of the earth—no science has received more general attention than that of agriculture. This at least is particularly true with respect to the past twenty years' agricultural experience of our own country. When we look back over that space of years, and contemplate the many improvements in farming which have been made, we have great reason to congratulate our farmers for the spirit, intelligence and good sense which they have exhibited.—*Exchange.*

BUSHEL AND ACRE.—What difference is there in the United States bushel and the English—also in the acre of the two countries? *Ans.*—The standard bushel of the United States is the same as the "Winchester bushel," which was the standard in England from the time of HENRY VII. to 1826, and contains 2,150.4 cubic inches. The present standard in England is the "Imperial bushel," which contains 2,218.192 cubic inches, being within a fraction of 68 cubic inches larger than that of the United States. The acre is the same in both countries.

ANCIENT AGRICULTURISTS.—The first three men in the world were a gardener, a plowman and a grazier; and if any man object that the second of these proved a murderer, he will please remember that as soon as he was so he quit our profession, and began to build a town!

MR. JOHN JOHNSON, near Geneva, writes to the *Geneva Courier* that he has got a Shanghai hen which for the last three months has laid two eggs a day, from two to four days in a week, and the rest of the days one egg a day.

IT has been stated, on authority entitled to the highest credence, that there is more work done every day in England, by the power of machinery, than all the men and women in the world could do without it.

THE hog stock on the farms of Ohio, Indiana, Kentucky, Missouri, Illinois and Iowa, is estimated to amount to nine millions of hogs.

Horticultural Department.

CONDUCTED BY JOSEPH FROST.

BEDDING PLANTS.

Many lovers of plants a few years ago found it quite impossible to indulge their taste with choice bedding out plants, owing to the great expense. Some others living at a distance, who would otherwise have had them, were deterred by the vexatious delays and irregularities of all public conveyances, fearing the great liability of perishable articles of this description not reaching their destination in good condition. Many more were wholly unacquainted with them, and would require many inducements before venturing to plant them. Now these difficulties seem to be removed, as the many commercial gardens throughout the country produce thousands of these plants every spring, and furnish them at such low rates that they are within the reach of all who desire them. The express charges have been so much reduced that it can be resorted to without incurring much expense, if plants have to travel long distances; if short, the ordinary railway route would be preferred.

Without a collection of bedding plants, no garden, however large it may be, is complete. Still it is quite doubtful if upon any other part of horticulture or florticulture the great portion of American amateurs show less acquaintance than with this. In part we find the Dahlia, the most magnificent and showy of all autumn flowers, comprising almost every conceivable color; the Verbena, each one of the flowers in itself being a miniature boquet—some of them quite fragrant—and its diversities of color and number of kinds are but little less than the hundreds of named kinds of Dahlias; the graceful and beautiful habit of the Fuchsia, sometimes called Ladies' Ear Drop, and its delicate and singularly formed flowers; the high and exquisite fragrance of the Heliotrope; the vivid colors of the Scarlet Geraniums; the mass of flowers formed by the Petunias; and with many other varieties of plants adapted for blooming constantly through the season are the Noisette, Tea, and Chinese or Daily roses, which make themselves the favorites of all who know them.

All bedding plants require to be planted from the 1st of May to the 15th of June, or as soon as no fears may be entertained from frosts or cold nights. All succeed well in any good garden soil. In giving the treatment and habits of the respective sorts we would like to devote an article to each one, but now will give only a brief sketch of each.

The Dahlia is a tuberous-rooted plant, growing from two to six feet high. The tubers or plants cultivated in pots are equally fit for planting to produce blooms, though pot plants are best, as they form but one stem, unless *all the eyes* but one from the dry root are removed by a knife, either before planting or as fast as they make their appearance at the surface of the ground. As soon as they are eighteen inches high, a stake should be driven firmly into the ground, to which the plants should be tied, to prevent their being broken by the winds. A very neat and superior method of staking is by fixing in the ground three slender stakes of wood, in a triangular form, and forming rings of split Willows, which are within the reach of every one, and tying them to the stakes at regular distances; or the stakes may be pierced with holes, and wire passed through them. Mulching about the stems of the plants with saw-dust or tan-bark is a good thing—or what is much better, decayed leaves—as it keeps the ground moist, and obviates the necessity of watering. Here the Dahlia is infested with a small brown insect, which destroys the extremities of the plant, thus preventing sometimes the young shoots from growing, or the buds from expanding. We have tried various means as a remedy, none of which have been successful.

The Verbena is one of the very finest of the plants, enduring without being injured every kind of weather, not excepting our hot summer sun. It trails upon and completely covers the ground, and at its joints forms roots. The following are among the finest collections, though some are old sorts: *Alba Odorata*, nearly pure white, and fragrant; *Beauty Supreme*, pink; *Defiance*, brilliant scarlet; *St. Marguerite*, shaded crimson; *Reine de Jour*, blush, with rosy eye; *Iphigene*, lilac, with purple center; *Etiole de Venus*, blush, very large, with purple eye; *Malvina*, dark purple.

The Fuchsia thrives well in any good soil, but requires rather a shaded situation.

Petunias have much the same habit of growth as the Verbena, and require much the same treatment, but are more coarse, comprising a great variety of bell-shaped flowers.

The Heliotrope too is quite similar in habit and appearance to the Verbena. It is quite a favorite from its fragrance, strongly resembling the Vanilla, and is very pleasant to those that like strong perfumes. Many cultivators offer a number of varieties, but we can not perceive more than three distinct sorts that are desirable.

Scarlet Geraniums produce their brilliant flowers constantly through the summer and autumn months, even during the hottest and dryest weather, making them among the most desirable plants.

Roses that generally require protection during the winter of the Tea, Noisette, and more particularly of the Chinese or Daily class, are admirably adapted for bedding.

To produce a fine effect in grounds, nothing is finer than to form groups of the different colors. A pyramid of flowers is easily effected by planting scarlet Dahlias, Geraniums, Roses, Verbenas and Petunias in a circle or oval plot, the tallest in the center, as the Dahlia, the Geranium or Rose next, and so on extending the circumference till the Verbena surrounds the whole. If one of white is desired, obtain such varieties of the respective kinds. These qualities make that portion of the flower garden devoted to bedding plants among the most pleasing of all.

THE GOOSEBERRY.

The gooseberry is held in the highest esteem in England, where it is grown in great perfection. There the moderate temperature and humidity of the climate seem to suit the fruit. It is very wholesome, and is found in nearly every cottage garden. During

the summer months when the gooseberry ripens, perhaps there is no fruit so generally within the reach of all classes. In Lancashire and in some portions of the adjoining towns, almost every one who has a garden cultivates the gooseberry with a view to prizes given at what are called "Gooseberry Prize Meetings." By very liberal prizes awarded at these shows —which vary from $2.50 to $25 and even to $50— they have been grown to enormous sizes, in many instances weighing more than one and a half ounces each. The fruit is used for tarts, pies, sauces and creams before ripe, and when at maturity it forms a rich dessert fruit for three months.

With us it has not attained the prominence among the fruits of this country which it deserves. The *mildew*, which attacks the plants and half grown fruit, is the great pest of those who are unacquainted with its culture, and also to the successful grower. To prevent or cure this disease, a great many means have been resorted to, and we would recommend the following treatment:

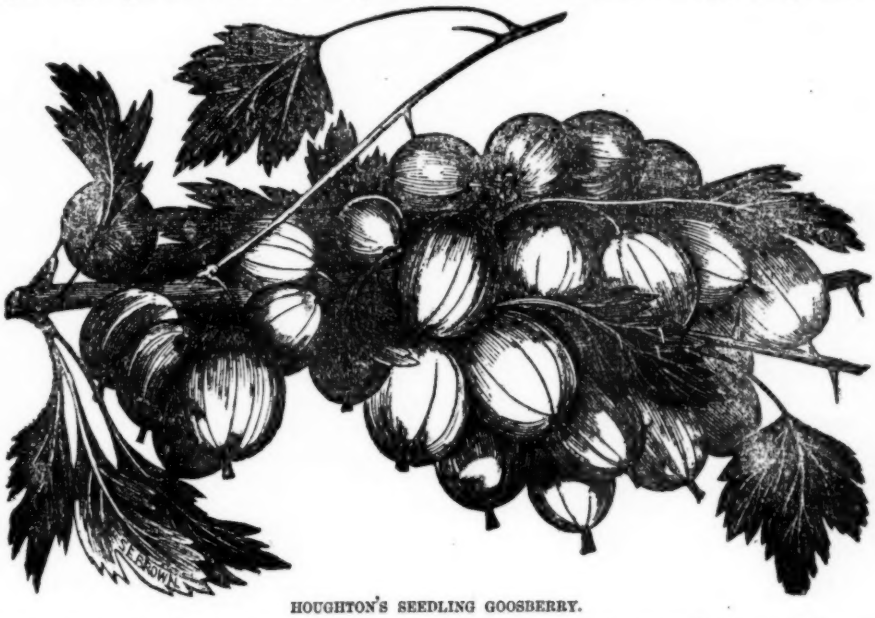
To produce good and perfect fruit of any kind, it is all important that the plant should be in the most vigorous and healthy state, but not to any variety more than the gooseberry. It uniformly succeeds best in a rich strong loam and *deep* soil.

Invariably it should be pruned up to a single stem, from four to twelve inches above the ground; and all offshoots or suckers should be cut off as soon as they make their appearance. It is absolutely necessary to give it a regular and liberal pruning; and the branches require thorough thinning to allow the light and air to pass freely through every part of the head of the plant. Every autumn that part of the garden devoted to the gooseberry should receive a good coat of well-rotted manure, forked or spaded in.

To keep the ground about the plant moist during our hot summer months, it is recommended to mulch the ground about the plants with spent tan-bark, or coarse litter; saw-dust or chips accumulated in a wood-house are excellent.

In selecting sorts from the nurseries, those should be procured which are among the best and hardiest Lancashire varieties. Among those kinds best suited for cultivation in this climate are the following, which were recommended by the Pomological Congress: *Houghton's Seedling, Whitesmith, Crownbob, Red Champagne, Warrington, Laurel, Early Sulphur, Ironmonger, Green Gage, Green Walnut.*

In this number we give a cut of *Houghton's Seedling* gooseberry. It is an American seedling, and is supposed to be a cross between our native gooseberry and a Lancashire sort. Though not large nor of the highest flavor, it is very valuable, as it is a great bearer; and both the plant and the fruit have as yet been perfectly free from mildew.



HOUGHTON'S SEEDLING GOOSBERRY.

SEEDLING APPLES.

FRIEND LEE—DEAR SIR:—I have taken the liberty to forward thee by express a box of seedling apples, and would like to hear thy opinion relative to their merits or demerits through the pages of the FARMER, or otherwise, as may be most convenient. The red one I have named *Southern Spy*, as it somewhat resembles the *Northern Spy*. I know it to be a seedling. The old tree is now dead. My father pulled up four sprouts or suckers from the old tree, and set them in his garden; one of them died; the other three are now large bearing trees. It is a great bearer, every other year bearing qualities similar to the *Greening*, but the tree is more luxuriant. It is

in eating from the first of November to the first of March, but can with good care be kept till the first of April.

The large russet was sent to me from Madison county, by a friend of mine, with whom it originated. I think it is a fine sweet apple. What thinkest thou? The small russet was also sent me by the same person as a seedling; but I think it is the *American Golden Russet* or *Bullock's Pippin*. My friend says he has frequently kept it a year, with only ordinary care. If it is not *Bullock's Pippin*, I think it too small, although he tells me it bears every year, to cultivate. What is thy opinion?

Thine, truly, SETH H. HEYLEY.

PORT BYRON, N. Y.

The large red apples called *Southern Spy*, are equal in every respect to the famous *Northern Spy;* and indeed they so much resemble the last named fruit as to be pronounced *Northern Spy* apples by good judges who have seen and eaten them.

The large and small russets are rich, finely-flavored sweet apples, and worthy of cultivation.—ED.

MR. EDITOR:—About two years since I observed the bark decaying and gettting loose on some of my Apple trees, some five or six inches from the ground. On examination, I discovered a worm about three-fourths of an inch long, of a reddish color, and rather slender, just between the dead and living bark. Last spring, thinking it would be beneficial to the trees, I plowed the orchard up (it having lain in grass for several years). A part I planted in potatoes on the sward; the remainder I planted in turnips and mangels. The turnips, owing to the dryness of the season and the ravages of the flea, turned out almost a total failure. On digging the potatoes, I found them almost eaten up by, I think, the same worm spoken of above. In many instances I found the rascals had eaten through the tubers, and were sticking in the ground. Any information through the FARMER with regard to this pest, with a remedy, would be thankfully received.

Enclosed I send you a few scions from an Apple tree that originated in my orchard, which is considered a valuable fruit. Size, large; color, dark green, tinged with red; season, from middle of October to middle of November. The tree is of singular growth: the twigs are long and slender, and hang down, with the fruit on the ends of the branches. On that account I called it the *Pendent* apple. Yours,

SALEM, Mercer Co., Pa. JOHN M. DUMAS.

MR. EDITOR:—For two years past I have had fine plums, which I think is by reason of the following experiment: One quart cheapest lamp oil, mixed with one ounce of creosote; in this I dipped strings the size of a man's thumb, loosely twisted, and pretty closely squeezed, and tied them around the trees. No insects ascended the trees afterward, that I could discover. I intend trying it again if alive, though I have seen more than seventy winters.

Yours, truly, E. HALL.

MOUNT CLEMENS, Mich.

THE Horse Chestnut tree came from Thibet.

THE HORTICULTURAL REVIEW AND BOTANICAL MAGAZINE, PUBLISHED AT CINCINNATI.—This journal, the union of the well known *Western Horticultural Review*, comes to us in a very neat style, and presents a handsome appearance. It is very ably conducted by JNO. A. WARDER, M. D., and JAS. W. WARD, Esq. The former gentleman was sole editor of the original journal. It represents that extensive section of our country which is destined to take a foremost rank in horticultural pursuits of every kind. Its terms are $3 per year, which can be sent to H. W. DERBY, publisher, Cincinnati.

AMERICAN FRUIT-GROWERS' GUIDE, BY F. R. ELLIOTT, of CLEVELAND, O.—This new work has just been published by C. M. SAXTON, New York. It is written by a gentleman of extensive horticultural reputation. It is quite a large book, containing descriptions of all valuable fruits introduced up to the present time, and is beautifully illustrated with numerous cuts. Every person who is desirous to keep up with the times should have a copy, and particularly those living at the West, as it is the best exponent of horticulture yet published for that section. Its price is $1.25, and can be had of D. M. DEWEY, Rochester, N. Y.

SEEDLESS APPLES.—The following is published in the *Memphis Eagle*, as the method to procure apples without seeds or cores: "Take the ends of the limbs of an Apple tree, where they hang low, so as to reach the ground; dig a small hole for each end under the tree; bend it down and bury it in the hole, confining it down so that it will remain. Do this in the winter, or the beginning of spring. The end of the limb thus buried will take root and put up sprouts or scions, which, when they become sufficiently large to 'set out,' dig up at the proper season, and transplant them in the orchard where you wish them to remain. When they get large enough to bear, they will bear apples without seeds or cores."

THE MANETTI ROSE STOCK.—It is asked if Roses worked upon this stock die off after three or four years' growth? I have now used the Manetti stock for at least seven years; and after I had once begun to set out plants upon it, my customers (or at least those of them who had a sample) would never take plants upon the Briar.

I have now fine large bushes on the Manetti at least five or six years old, which are as healthy and vigorous as they were the first season, and which form a fine contrast (on a border of specimens) with the majority which are on Briars, and some of which are annually dying, and others monthly choked with suckers.

One of the best properties of the Manetti stock is the freedom with which it swells annually with the growth of the bud. As a pot stock it is invaluable—it makes such fine, fibrous roots, and is so clear of suckers; and in pots it may be "worked" ten months out of the twelve. I have formerly said a good deal in favor of this stock, and now, after seven years' experience, I think more highly of it than ever.—*T. Appleby, in the London Gardeners' Chronicle.*

Ladies' Department.

RURAL LIFE.

The following article, which we find in the *New England Cultivator*, over the signature of "A Farmer's Wife," we commend to the perusal of the lady readers of the Farmer, as the evil it complains of is becoming too common to be passed by unnoticed:

"It may by many be deemed irrelevant for ladies to write and speak on the subject of agriculture; but when we consider that the happiness of a large share of American ladies depends upon the progress of agricultural knowledge, and the comforts of rural homes, all should be willing to concede them a voice in diffusing a healthy sentiment on the subject.

"We, who have passed the meridian of human life, know that the mothers, wives and daughters of the rural population were formerly healthier, and more capable of enduring fatigue and toil, than the present generation. The cause of this deterioration of health and physical vigor must be attributed to the efforts of the rural class to copy the manners and customs of the city.

"I do not wish to lose sight of the fact that the present age furnishes more facilities for improvement than any preceding. What is to be lamented, is that the facilities of the present time, instead of being improved for the practical and useful, are made subservient to the ornamental and fashionable.

"It is to be deplored that so many mothers are mere slaves to hard labor, allowing their daughters to imitate the fanciful and fashionable, and discard the practical purposes of life. When we see the mother a slave to the kitchen, and the daughters priding themselves on their lily-white hands, their graceful dancing, and other mere accomplishments, and disdaining to refer to the practical of rural life, either in or out of doors, we think they are slaves to a false education and a vitiated taste, which are paving the way for future regrets."

Asparagus Seed for Coffee.—Liebig says that asparagus contains, in common with tea and coffee, a principle which he calls "taurine," and which he considers essential to the health of those who do not take strong exercise. Taking the hint from Baron Liebig, a writer in the *London Gardeners' Chronicle* was led to test asparagus as a substitute for coffee. He says: "The young shoots I first prepared were not agreeable, having an alkaline taste. I then tried the ripe seeds; these roasted and ground make a full flavored coffee, not easily distinguishable from fine Mocha. The seeds are easily freed from the berries by drying them in a cool oven, and then rubbing them on a sieve."

In good soils, asparagus yields seeds abundantly; and if they are charged with "taurine," and identical with the seeds of the coffee plant, asparagus coffee may be grown in the United States at less than half the cost per pound of the article now so largely imported.

If a small boy is a lad, will a large boy make a ladder?

USEFUL HINTS.

Thunder Storms.—The safest situation during a thunder storm is in the cellar; for when a person is below the surface of the earth, the lightning must strike it before it can reach him, and will probably be expended upon it. Dr. Franklin advises persons apprehensive of lightning to sit in the middle of a room, not under a metal lustre, or any other conductor, and to place their feet upon another chair. It will be still safer, he adds, to lay two or three beds or mattresses in the middle of the room, and to place the chairs upon them. A hammock suspended with silk cords would be an improvement on this apparatus. Persons out of doors should avoid trees, &c.

The distance of a thunder storm and its consequent danger can easily be estimated. As light travels at the rate of 192,000 miles in a second of time, its effects may be considered as instantaneous within any moderate distance. Sound is transmitted at the rate of 1,142 feet in a second. By observing, therefore, the time which intervenes between the flash of lightning and the thunder which accompanies it, a very near calculation may be made of its distance.

Fires in Chimneys.—When a chimney or flue is on fire, throw into the fire-place handfuls of flour of sulphur, which will destroy the flame. Or apply a wet blanket, or old carpet, to the throat of the chimney, or over the front of the fire-place. A chimney-board, or register-flap, will answer the same purpose, by stopping the draught of air from below.

Beware of lights near combustibles; of children near fires and lights; and do not trust them with candles. Do not leave clothes to dry by the fire unwatched, either day or night; do not leave the poker in the fire; see that all be safe before you retire to rest.

Economy in Expenditure.—Economy should be the first point in all families, whatever be their circumstances. A prudent housekeeper will regulate the ordinary expenses of a family, according to the annual sum allowed for housekeeping. By this means, the provision will be uniformly good, and it will not be requesite to practice meanness on many occasions, for the sake of meeting extra expense on one. The best check upon outrunning an income is to pay bills weekly, for you may then retrench in time. This practice is likewise a salutary check upon the correctness of the accounts themselves.

Cheerfulness.—Does it not seem singular that cheerfulness is placed among the requisites for good house-keeping? But it is of far more importance than you would, at first view, imagine. What matters it to a brother or husband, if the house be ever so neat, or the meals punctually or well prepared, if the mistress of it is fretful and fault-finding—ever discontented and complaining. The *outside* of such a house is ever the most attractive to him, and any and every excuse will be made for absenting himself; and the plea of business or engagements will be made to her who is doomed to pass her hours needlessly in solitude.

The valuable communication from Mrs. C. P. T., of Oakland, Rice Lake, C. W., was received too late for this number, but will appear in our next.

Editor's Table.

AGENCY IN NEW YORK.—C. M. SAXTON, Agricultural Book Publisher, No. 152 Fulton street, New York, is agent for the GENESEE FARMER, and subscribers in that city who apply to him can have their papers delivered regularly at their houses.

AGENCY IN CINCINNATI.—R. POST, No. 10 West Third street, Cincinnati, is agent for the GENESEE FARMER, and subscribers in that city who apply to him can have their papers delivered regularly at their houses.

PREMIUMS FOR 1854.—At the earnest request of many friends, and competitors for the liberal premiums to be paid by the proprietor for the largest list of subscribers to the GENESEE FARMER for 1854, the time of closing the competition is extended to the 15th of June next. We desire to give all an equal chance, and are profoundly grateful for the deep interest taken by our friends in the circulation of this journal.

The paper on which the FARMER is printed is manufactured in Cleveland, Ohio, and we have had some unpleasant delays at Erie in getting it by railway so early as we intended to publish every number. Hereafter, we hope to escape every impediment, and mail every copy some days before the first of the month.

APRIL.—Now is the time to prepare ground well for all kinds of seeds to be committed to its bosom. Several important crops will be highly remunerative to the cultivator, or otherwise, as he shall till the earth in the month of April, and gather up for timely use, and save from waste, every particle of manure about his barns, sheds and stables.

When the good husbandman has carefully collected the concentrated food of plants in heaps ready for use, he is often at a loss to decide how much per acre he ought to apply to ground where he intends sowing spring wheat, barley or oats, and where he expects to plant corn and potatoes. The best possible distribution of manure, so as to obtain the maximum benefit from it, is a matter not sufficiently studied. It generally pays a little better on corn than any other crop; for corn plants are gross feeders, and on a rich soil yield abundantly in grain and forage.

Great care should be taken in spreading manure, that it be not left in large lumps. Give every square foot of land its equal share of the fertilizer, whatever it may be. In plowing it in, cover manure on light sandy soils deeper than on clay land, or clay loams, for in the former the roots of all plants descend deeper than in the latter.

All seeds require to be planted deeper on porous soils than on any other. The roller is of essential service in bringing cultivated earth to the right condition to absorb and condense fertilizing gases. The smaller the pores in a soil the better, provided they are sufficiently numerous. A compact mass of clay, or earth of any kind, yields little or no food to growing crops. Hence the value of crushing hard lumps, and the wisdom of not plowing ground in too wet a condition, whereby such lumps are greatly multiplied.

Adapt seed wheat, oats, barley and corn, as to quantity, to the strength of the land—poor land needs much less seed than rich. Millions of acres will be planted in corn this spring in the Southern States having only one plant in a hill and the hills five feet apart each way. A peck of wheat is seed enough for very poor land.

MOUNT VERNON FOR AN AGRICULTURAL COLLEGE.—An esteemed correspondent, Mr. E. A. SMITH, of Whitley C. H., Indiana, suggests the propriety of petitioning Congress, and making a general effort in that behalf, to purchase the Mount Vernon Estate of the family of WASHINGTON, with the view to establish thereon an Agricultural College and an Experimental Farm. First and last, some half a dozen spirited gentlemen have attempted to carry this idea into effect, but public opinion was not ripe for it, nor is it likely to be for one or two generations to come. Public opinion now appropriates a million dollars or more for heaping up a huge pile of stone in the federal metropolis, in the name of WASHINGTON, to illustrate its heathen idolatry; but it will not expend a single cent to carry into effect the wisest and best recommendations of the "Father of his Country," for the promotion of agriculture.

CAUSE AND CURE OF THE POTATO ROT.—Mr. ANDREW SMITH, of Clarksburg, Erie county, N. Y., has written us a letter in which he says that the rotting of potatoes planted for seed *causes* the crop growing therefrom to decay prematurely. To cure or prevent the malady, he removes the seed potatoes before the young tubers are formed; by which he supposes that no infection is permitted to pass from the rotting old potato to the new one. This plan was first tried by Mr. S. in 1851; and if we understand him aright, it has since been tried with equal success. Where the parent tuber does not rot, Mr. S. says that its offspring are sound. His theory is ingenious, and deserving of the attention of Agricultural Societies.

IMPORTATION OF CATTLE INTO ENGLAND.—A friend in Woodstock, Canada West, has called our attention to an article in our last number, on page 87, copied from the *St. Louis Evening News*, where it is alleged that "English stock-growers get cattle from abroad to cross with their fine breeds, knowing that in this way alone the superiority of stock may be preserved." The article was copied as a matter of agricultural news, to indicate the interest taken in the State of Missouri for the improvement of neat cattle, and not to endorse any statements it might contain. Our own views coincide with those of our correspondent; and his letter will appear in our next issue, with editorial remarks.

WHEAT was introduced into the Valley of the Mississippi by the "Western Company" in 1718, where, from the careless mode of cultivating it by the early settlers, and the sudden alterations of temperature, it would only yield from five to eight fold, running to straw and blade without the ear. In 1746, however, the culture had so far extended that six hundred barrels of flour were received at New Orleans from the Wabash. So says the Patent Office Report.

Transactions of the Wisconsin State Agricultural Society.—A. C. Ingham, Esq., Secretary of the Wisconsin State Agricultural Society, has our thanks for the second volume of th Transactions of said Society, which contains much valuable information on rural affairs. Mr. Lapham's paper on the *Fauna* and *Flora* of Wisconsin renders the volume unusually attractive to naturalists and all well-informed readers; while its strictly agricultural and horticultural matter will compare favorably with that of other State Agricultural Societies. On page 135, the analysis of a soil in Sheboygan county is made to misinform and mislead the unscientific reader, by a misprint. The word "alumina" is placed where those of "silicious sand" ought to be, and the latter stand in the place of "alumina," by transposition. As the figures and words now stand, the soil in question is represented as containing 70 per cent. of alumina, and only 13 per cent. of silicious sand. There are other errors which might be pointed out, but they are of less consequence.

We see by the Court Records, that the two counterfeiters, White, of Buffalo, and Lawrence, of Epping, N. H., have been placed under ten thousand dollar bonds each, for making and selling imitations of Ayer's Cherry Pectoral. This is right. If the law should protect men from imposition at all, it should certainly protect them from being imposed upon by a worthless counterfeit of such a medicine as Ayer's Cherry Pectoral. We can only complain that the punishment is not half enough. The villain who would for paltry gain deliberately trifle with the health of his fellow men, by taking from their lips the cup of hope when they are sinking, and substituting a falsehood —an utter delusion—should be punished at least as severely as he who counterfeits the coin of the country.—*Green Co. Banner, Carrolton, Ill.*

Wool-growing in Australia.—Many have thought that the discovery of gold in great abundance in Australia would lead to the abandonment of wool-growing on that continent. Such, however, appears not to be the case; for the official returns to Parliament for 1853 show that Australia sent to Great Britain last year over fifty million pounds of wool. We have many statistics bearing on this subject, procured at considerable expense, that will be given hereafter. The whole amount of wool grown in the United States in 1850 was but 52,518,143 pounds—equal only to the export of Australia in a single year! This new British continent is the greatest marvel of the age.

Godey's Lady's Book.—It is enough to say of this well-known periodical that it has reached its forty-eighth volume and has steadily increased in interest with its increase of years. Published monthly by Louis A. Godey, Philadelphia, at $3 a year. Two copies at $5; six copies at $10.

The New York Journal.—This is a monthly illustrated literary periodical, which we have not read; but judging from its appearance, it is cheap at 12½ cents a number. P. D. Orvis, 75 Nassau street, New York, publisher.

Blackwood's Magazine.—Nothing that we can say will add to the reputation of this monthly magazine, which has been published in Edinburgh until it has reached the *four hundred and sixtieth number;* and it was never better than at present. The reprint by Leonard Scott & Co., New York, is sold by D. M. Dewey, Rochester, at 25 cents a number, or $3 per annum.

Illustrated Magazine of Art.—Of all illustrated magazines published in the United States, there is no one that will compare with that issued by Alexander Montgomery, 17 Spruce street, New York, at 25 cents a number and $3 a year. If it were not mainly a reprint of European engravings and letter press, the work would cost five times the price at which it is sold.

Inquiries and Answers.

Guano and Gypsum.—In Vol. XIII., page 322, of the Genesee Farmer, on the application of guano to wheat, thou sayest "it is best not to mix gypsum with guano, as it, when wet, liberates the ammonia." What is best as a divisor of guano, to be applied in a hill of corn? Rahway.

In using guano, very few add any thing whatever to the manure, except a little water to moisten and soften the lumps, that they may be easier crushed and made fine. The remark that "gypsum liberates ammonia from guano when moist," was made by an assistant in the office (Mr. Harris), and we fear it is not sustained by any sufficient chemical authority. If the sulphate of lime is not decomposed at all (as some believe), then it can have no effect whatever on the ammonia in the guano; but if the sulphuric acid leaves its base (lime), ammonia is doubtless the only available alkali with which it can unite, and with which it forms an involatile salt. We should as soon expect a solution of common salt or of copperas to liberate ammonia from manure as a solution of gypsum to have that effect. Caustic lime will liberate ammonia from good guano; and a mixture of pure potash and gypsum might do the same, for the potash taking the oil of vitriol from the lime, the latter might decompose a salt of ammonia, and set its volatile base free.

Manuring for Corn.—I have a meadow sward that I design breaking and subsoiling, and dressing with a coat of manure, for the purpose of raising corn the coming summer. Would you advise the manure to be applied and turned under at the first plowing, or to be spread over and harrowed in a short time before planting? The composition of the soil is a compound of sand, loam and clay. D. L. G.—*Waynesburgh, Ohio.*

It is not improbable that manure harrowed in, as described, would enrich the surface soil more, and yield a better crop the first year, than if turned under at the first plowing; but taking the improvement of the land into the account, and the crops for three or four years, the latter practice will pay best, in our judgment. If we mistake not, farmers fail most in neglecting to deepen the fertility of their fields from year to year, by a little deeper tillage and manuring. Give corn a deep and pervious soil of moderate richness, and its numerous roots will descend several feet into the ground, and protect the plant from serious injury in very dry weather.

I HAVE on my place a crystalized stone, so soft that it can be ground at a good advantage in a plaster mill, and it makes a powder very white, and after it is burned is very white lime. Now, what I want to know is whether there is any value in that stone as a fertilizer before it is burned, when it is ground? Where the stone comes to the surface, it wastes and runs down on the soil, making it black and rich, and gives vegetables a dark, rich appearance and growth. It will put you to some trouble to answer, but no more than I have and will take for the benefit of the GENESEE FARMER. ANDREW CLARK.—*Comstock Landing, N. Y.*

The limestone above mentioned may be regarded, when ground, as equal to the best marl, and used accordingly. If exposed to the air for some months, it would probably disintergate so as to be spread without grinding. The freezing of a winter would probably aid in reducing the porous stone to a powder. If it is abundant and cheap, use it freely on your land, for it will doubtless benefit your pastures, meadows and tilled fields. Spread it as you would leached ashes; and if you can add the latter, so much the better. We should be glad to pay a thousand dollars for enough of such rotten limestone on our farm to supply 100 acres with the needful calcareous element.

IN the many papers I have seen in relation to the use of bones as a manure, and their preparation with sulphuric acid, I do not recollect having seen any statement of the effect of the acid on the fat and gelatin contained in fresh bones. Will you have the goodness to inform me, either through your paper or otherwise, whether the fatty matter is dissipated or diminished in agricultural value by the application of acid? CHARLES R. PAXTON.—*Bloomsburg, Columbian Co., Pa.*

Concentrated acid would burn and ultimately consume the fatty matter in bones; but as the acid is diluted in some five times its weight of water, no part of the organic matter in bones is destroyed. The *gelatin* in bones is far more valuable as food for plants than the oil or fat which they contain. At the time Prof. JOHNSTON wrote his *Lectures on Agricultural Chemistry*, bones boiled to extract their organic elements were worth four guineas a ton, while those in their natural state sold at seven guineas a ton. In England a ton is 2240 pounds.

W. L. B., of Kalamazoo, wishes to learn the difference in durability between Red Cedar and White or Yellow, as fence posts. If any reader will give information on the subject we shall publish it. Mr. B. remarks: "Great efforts have been made for years to induce northern farmers to locate in Virginia, on their exhausted lands. Can you inform me how far those lands have given satisfaction?" As a general thing, emigrants from the North to Virginia and Maryland have done and are doing well. Their crops sell high, and their farms yield well, if not better, than they expected.

Our Canadian correspondent (A. M. S.), who asks for some remedy to prevent wheat falling just before it is ripe, has called up an important subject. The young of the Hessian fly often cause wheat to fall very badly. If these insects infest his crop, they may be seen in June lying compressed into the stems near the crown or roots, by pulling down the lowest leaves and exposing a few inches of the naked culm. The pupæ resemble a flax seed in size and color, being a little smaller than the seed. Wheat, however, not unfrequently falls without the aid of insects, from its own weight, and a lack of flint to stiffen and strengthen the stems of the plant. To remedy this defect, the farmer needs the best lights of chemical science; and, fortunately, practice fully sustains the teachings of science in its results, in this matter. The free use of alkalies (wood ashes) and lime, on land sufficiently drained, has rarely failed to brighten and strengthen wheat straw. The rationale will be given hereafter.

WHAT IS THE BEST WHITEWASH FOR OUT-BUILDINGS?—A friend in St. Thomas, U. C., wishes to learn how to make and apply the best substitute for oil paint for the preservation of barns, sheds and other out-buildings, fences, &c. We have published a great many recipes in back volumes of the FARMER; but perhaps some one of our numerous readers may have discovered a cheap and durable paint adapted to the purposes indicated.

(S. C. V., Allisonville.) We do not know where the California bald barley can be had. And since recent improvements have been made in different reapers, we really do not know which to recommend. Our impression is that KETCHUM'S is the best mowing machine in the country. Your success with ashes only confirms what the FARMER has taught for twenty-five years.

MR. EDITOR:—Mr. CALEB R. HOBBIE wishes to be informed through the medium of the GENESEE FARMER, whether smutty seed wheat, if sown, would produce smut. I have been growing wheat for the last fourteen years in succession, in a rich wheat country, and I have made experiments to warrant an answer in the affirmative. Whenever I sowed smut I was always sure to reap smut. See GENESEE FARMER, Vol. XII., pp. 10, 44. P. B. STEINMETZ.—*Stockertown, Northampton Co., Pa.*

MR. EDITOR:—"J. M. W.," in the February number of the FARMER, wishes to know something about killing or getting rid of Marsh Willow. I have had a little experience during the last five years in this matter, having cleared and improved not less than one hundred acres of marsh land during that time, and am now clearing about seventy-five acres more. My method is simply this:—When there is sufficient marsh grass, I burn it over early in the spring; then follow with the brush scythe, hook, or axe, as circumstances require, piling the brush to be burned at some future day; sow on Red Top where needed, and mow same season, cutting off all the young sprouts that come up, and which are just as good for sheep as the grass. I have but little trouble in getting rid of my bushes, and bringing the land immediately into mowing or pasture. When there is not sufficient grass to burn, as above, and the brush is thick, I cut it during the winter and spring, and burn as soon as dry enough; sow on Red Top (and Timothy, if it is not too wet); then pasture; and if sprouts come up, I run them over the latter part of the season with a brush scythe. Clip them off a few times in this way, and I think they will soon run out. Perhaps "J. M. W.'s" Willows are different from ours. We have a variety; the Red and Yellow are the worst. If our friend can't get rid of them, he must set up a basket factory.

I am also ditching the same—cutting ditches along the roads, eight feet wide and three feet deep, which generally

not only drain, but serve as a fence. I also cut the same for line fences, calculating that what I throw out will pay for the ditching for *manure;* and then the land, much of it, is worth more than upland. D. BEEBE.—*Hillsdale, Hillsdale Co., Mich.*

HORTICULTURAL.

OUR Apple trees in this county have been attacked with a disease similar to the Pear tree blight. I have had nice and thrifty grafts of three years' growth die down to the very stocks in a few days; likewise some of the natural shoots of the current year. The soil is sand and clay, mixed; water soft in some places. Does our soil lack lime, or what is it? Let us know. C. W.—*Brimfield, Ohio.*

It is much easier to ask hard questions than to answer them. Try lime and ashes, as recommended by Professor KIRTLAND and others. The remedy can do no harm, and may prove all-sufficient. If an insect does the mischief, cut off all affected limbs as soon as discovered and burn them. We have had Apple trees affected with this peculiar blight, and after much doubt were inclined to believe, in that case, insects did the business.

I HAVE *Downing's Fruits and Fruit Trees of America, Thomas' Fruit Culturist, Barry's Fruit Garden,* the *Country Gentleman,* and four volumes of the GENESEE FARMER, but they do not tell me about the small hopping green bug that last season settled on the buds of my grape vines early in the spring, from three to seven on each bud. They remained there about three weeks, and almost destroyed the vines. They were the worst on what is called the *Connecticut* grape; the *Isabella* and *Sweet Water* were not hurt so bad. Now, sir, if you can give the cure I shall be thankful. I wish to know what whale oil soap is, how made, or where obtained. WM. H. SHERWOOD.—*Portland, C. W.*

Whale oil soap is made by uniting the oil named with potash or soda lye. This soap, dissolved in water, is thought to be peculiarly offensive to insects, when thrown with a syringe over the foliage and fruit of plants.

IRRIGATION AND INSECTS.—It is said that irrigation destroys grasshoppers and all such vermin in meadows. Would it not destroy the curculio, think you? has it ever been tried? or would it injure the Plum trees to flood the roots with water? I would like to have your opinion as to the experiment, and the best time to try it. THOMAS STEWART.—*Home, Indiana Co., Pa.*

No irrigation will destroy grasshoppers, unless they are showered down upon or otherwise wetted by impure water. The ground under Plum trees is frequently "flooded" by heavy and protracted rains, which do not probably destroy the young of the curculio. If one were situated so as to try the experiment fairly, we think it highly probable that a weak brine of common salt might kill all insects in the earth and near the surface of the ground under Plum trees, without injuring the latter. Too much salt will kill any fruit tree, and all brine should be used cautiously.

CULTIVATION OF THE CRANBERRY. (J. H., Dowington, Pa.) On upland soils, select a piece of cold, wet land, that will keep moist during the year, and remove an inch or two of the top soil, which will prevent weeds or grass from growing. After making your land level by dragging, procure your roots in bunches about as large as is convenient to remove with a shovel; dig the holes about as large as the bunches of roots, two to three feet apart each way. If properly done, they will require no further cultivation.

NORTHERN SPY APPLE. (L. C. F., Springfield, Ill.) Here the *Northern Spy* is one of the most popular sorts, and is thought by many to be the *very best* in its season. It grows rapidly and upright. The tree is *remarkably productive,* though not an *early bearer;* therefore it attains a large size before much fruit can be expected. Many who were not acquainted with the habits of this tree have been disappointed, thinking it to be a poor bearer, as it did not produce much while young. Its flavor is of the finest quality, which it retains till June and July, if properly kept. If in good soil, and the branches are judiciously thinned by pruning, one can not fail to get good fruit from it.

GRAFTING GRAPES, PLUMS, &C. (J. C. R., Monroeton, Pa.) Grapes can be grafted while in a dormant state with success by either *stock* or *cleft grafting,* if upon large trees an inch in diameter or more; or by *whip grafting,* if upon smaller branches. [For method of performing the above operations, see any one of the different treatises published upon the cultivation of fruit, &c.]

Plums may be grafted in March and April, or budded in July or August. Either method succeeds well, if the stocks are in good condition.

EVERGREEN AND DECIDUOUS TREES FROM SEED, HARDY CLIMBING ROSES, &C. (E. B. E. D., Rochester.) Seeds of the Holly and Thorn do not vegetate the first season, but generally remain in the ground dormant till the second year, though sometimes a very few will grow the first year, if sown in the autumn as soon as gathered. The seeds of White Pine are ripe in October, the Hemlock in November, the Scarlet and Soft Maple in September, and the Elm in June. As soon as ripe they should be gathered and placed in a cool cellar, mixed with dry sand, where they will keep well till the ground is fit for sowing in the spring. The seeds will thrive in any good soil, but it should not be heavy or stiff. They might be sown in long beds, if the quantity was not large, as one would onion seeds, in drills, say six inches apart, excepting the evergreen seeds, which make but little growth the first year; if the drills for these were two inches apart it would be ample. Seeds of the deciduous trees noted above, when about to vegetate, should be protected wholly from the sun, which is quite effectually done by procuring branches of evergreen trees and covering the beds with them. This protection is all important to evergreen seeds of all kinds just beginning to shoot, for if neglected it is very doubtful if one succeeds in raising a single plant. Where large quantities are grown, experience has proved that it is as economical and as well to obtain a cheap kind of sheeting, which, sewed at the edges, can be made the desired width (boards about a foot wide and an inch thick having previously been placed upon their edges on each side of the bed, and at its ends, forming a complete box around it); the cloth can then be stretched over the bed, tacking one edge of the cloth to the edge of the boards forming one side of it; narrow strips can be fastened at intervals, connecting the boards at the sides, to support the sheet. During cloudy weather and warm showers the sheeting may be rolled up, thus exposing the plants to the weather, which would be at such times of much benefit to them.

and it can be unrolled at pleasure when the weather changes. This attention is *necessary* only for the first two or three months.

The *Augusta* Rose is *not* hardy, consequently worthless as a hardy climber. The best hardy Climbing Roses are—*Beauty*, or *Queen of the Prairies, Baltimore Belle, Mrs. Hovey, President, Felicite Perpetuelle, Laura Davoust.*

CAN THE BITTER ROT IN APPLES BE PREVENTED?—J. Y., of Port Republic, Va., wishes to learn if the bitter rot in apples can be prevented. The malady is quite troublesome in that region. Without having any special knowledge on the subject, we suspect that defects in the soil have much to do in producing the premature decay called bitter rot, although parasitic fungi may participate in working mischief. Trees duly pruned, and not allowed to bear more than a moderate number of apples, and properly manured, will be likely to yield sound fruit. We shall be glad to hear from any gentleman who has had experience in the disorder referred to.

ADVERTISEMENTS,

To secure insertion in the FARMER, must be received as early as the 10th of the previous month, and be of such a character as to be of interest to farmers. TERMS—Two Dollars for every hundred words, each insertion, PAID IN ADVANCE.

EARLY EXCELSIOR POTATOES.

THIS is a new and very superior sort. They are as early as the June potato, grow above the average size, are mealy and palatable, and have kept better than any other variety planted in this vicinity. The rot has never been known among them.

R. L. ALLEN,
April 1, 1854.—2t 189 and 191 Water street, New York.

TO AGRICULTURISTS.

WANTED, by a THOROUGHLY PRACTICAL MIDDLE-AGED MAN, a situation as Farmer or Manager, on a spirited agricultural establishment. The advertiser is a married man; his wife is an experienced Dairywoman; both are natives of Scotland, where and in England he has had much practice, and is well informed in the general system of modern management adopted there, as also of the general practice, climate and soils of these Northern States. The laws of irrigation, the laying out and ornamenting lands, either for pleasure, profit or effect, are well understood, as is also that of Breeding, Rearing and Feeding, and the general management of the Dairy. References will be given.

☞ Address (post-paid) O. P. Q., Drawer 39, Postoffice, Rochester, N. Y. April 1, 1854.—1t

FARMER AND GARDENER WANTED.

WANTED, on a farm in Ulster county, about 95 miles from New York, a young married man, capable of doing general farm work, and willing to make himself generally useful.

Also, wanted a young married man, capable of cultivating a plain garden, taking care of horses, &c., and occasionally to assist with farm work.

Privileges allowed are house and garden spot, keeping of a cow and pig, and fuel for the year. Persons answering above description, and able to furnish good recommendations as to capacity and integrity, may address, stating terms in addition to above privileges,

April 1, 1854.—3t. W. W. DIBBLEE, New York.

FARM FOR SALE.

SAID Farm is pleasantly situated in the town of Leicester, Livingston county, N. Y., on the road leading from the Pine Tavern to Gibsonville, and half a mile from the latter place. It contains 140 acres of land, 115 of which are under good improvement, and well adapted to raising wheat and spring crops; the balance is timbered. It is well watered with durable springs of soft water, and has convenient buildings and a good young orchard of choice fruit. There are 36 acres of wheat on the ground. The above will be sold cheap, and terms made easy.

Also, can be had with the farm, if desired, at a fair price, 1 span of horses, 25 head of cattle, and 30 sheep, with a good set of farming tools.

Any further information can be had by calling on or addressing

CHARLES HOLMES,
February 1, 1854.—3t Gibsonville, Livingston Co., N. Y.

GENESEE VALLEY NURSERIES.

A. FROST & CO., ROCHESTER, N. Y.,

OFFER this spring as usual choice BEDDING PLANTS of every description, select GREEN-HOUSE PLANTS, NEW ROSES, &c. &c. As desirable additions are made to our extensive stock every spring, by importations from the most reliable sources in Europe, it comprises a large collection of the most select varieties of Dahlias, Verbenas, Petunias, Fuchsias, Scarlet Geraniums, Heliotropes, Dwarf Chrysanthemums, Roses, &c. &c.

☞ Priced Descriptive Catalogues of them can be had upon application. When sent by mail, a one cent postage stamp required to prepay postage. April 1, 1854.—2t

FOR SALE.

THE subscriber has 2,500 YOUNG HORSE CHESTNUT TREES for sale, *three to ten feet high, straight thrifty trees, good tops.* For sale on the ground, singly or by the dozen, at 4s. each for the largest size, and by the 100 or more, for 2s. each. The smaller trees I will sell to Nurserymen at a very low rate, according to the number taken.

BURR BUTLER,
March 1, 1854.—2t* Palmyra, Wayne Co., N. Y.

ASIATIC FOWLS.

FOR SALE, at auction prices, a choice lot of Asiatic Fowls, consisting of the Brahma Pootra, Chittagong, Gray Shanghai, and Cochin China varieties, all young fowls, and warranted to be of pure blood, and of the large breeds. Per pair, $10. Two pullets and a cock, $15. Cooped and sent by express to any part of the United States, promptly, on receipt of the money. The above prices are extremely low, the ordinary charge for the same birds being $20 to $30 per pair.

ALFRED E. BEACH,
86 Nassau street, New York.

Reference—P. T. Barnum, Esq., President of the National Poultry Society. April 1, 1854.—1t.

BRAHMA POOTRA FOWLS FOR SALE.

THE subscriber has fifty pairs of the above fowls for sale, of pure blood. He also offers for sale the coming spring eggs for hatching, from fowls which he selected to breed from. Also, Black Spanish eggs, from imported fowls. THOS. WRIGHT.

Utica, February 1, 1854.—3t.

BRAHMA FOWLS.

THE celebrated Brahma Fowls, purely bred, also Canton and Marsh Shanghae or Imperial Fowls, for sale at reasonable prices by WM. N. ANDREWS,

March 1, 1854.—2t Dover, N. H.

FIELD AND GARDEN SEEDS.

SPRING WHEAT, Barley, Oats, Grass Seed, Clover.
Fresh Ray Grass, Lucern, White Clover, just imported.
Excelsior Potatoes, a new and improved variety.
Belgian Carrot, Sugar Beet, &c.
Garden Seeds of all kinds, including Flower Seeds.

R. L. ALLEN,
March 1, 1854.—3t 189 and 191 Water street, New York.

FARMERS AND GARDENERS, TAKE NOTICE.

WE have now in store, and offer for sale at the following prices:

500 bush.	Early Field Peas,	@	$1.50
500 "	Common Field do.,		1.38
100 "	Pure Creeper do.,		1.50
200 "	White Marrowfat do.,		2.00
100 "	Irish Marrowfat do.,		
200 "	Early Kent do.,		
300 "	Early Washington do.,		2.50
100 "	Early Warwick do.,		2.50
50 "	Dwarf Blue Imperial do.,		
50 "	Assorted kinds do.,		
250 "	Fife Spring Wheat,		2.30
150 "	Club Spring Wheat,		2.50
100 "	Spring Rye,		1.50
100 "	Seed Corn,		1.50
50 "	Blue Grass,		3.00
50 "	Red Top,		3.00
50 "	Orchard Grass,		3.00
300 "	Timothy Seed,	$3.00 to	.50
100 "	Clover Seed,		
10 "	Stowell's Evergreen Sweet Corn,		8.00
1000 lbs.	Long White and Long Orange Carrot,	@ $1.25 per lb.	
1000 "	Ruta Baga and Field Turnip Seed,	.75 "	
500 "	Red and Yellow Onion Seed,	1.25 "	

Also, a full assortment of Garden Seeds, of both American and English growth, all of which we warrant of the best quality.

All orders for any of the above Seeds, with *the cash*, will meet with prompt attention, at the Genesee Seed Store and Agricultural Warehouse, 65 Buffalo street, Rochester, N. Y.

April 1, 1854.—1t J. RAPALJE & CO.

KENTISH'S PREPARED OR ARTIFICIAL GUANO.

TWENTY DOLLARS PER TON.

POTATO ROT.

I HAVE used "Kentish's Prepared Guano" this season on potatoes. My crop was large and all sound. Where I did not use it, the potatoes were all rotten and worthless. My neighbors, also, who have not used this fertilizer, have not raised a saleable potato this year. I consider it a preventive of rot. G. PREAUT.

Westchester Co., N. Y., Sept. 29, 1850.

Extract of a Letter from E. B. Addison.

Alexandria Co., Va., April 23, 1851.

Dr. John H. Bayne, President of Prince George's County Agricultural Society, Maryland, has desired me to inform you that last spring he used African Guano, Poudrette, Peruvian Guano, and your Prepared Guano, on potatoes. The first two were distanced, but the result from the Peruvian and yours was about equal. He pronounces your Prepared Guano to be a very excellent article, and esteems it highly.

Richmond Co., N. Y., July 27, 1849.

I have made use of Kentish's Prepared Guano on potatoes, cabbages, cauliflowers, corn and grapes. I found the result much more satisfactory, and the produce much larger, than where I used imported Guano or any other kind of manure.

EDWARD JENNINGS, Gardener.

☞ It is equally fertilizing on all crops. See the numerous certificates on this subject in the printed circular, to be obtained at KENTISH & CO.'S Depot, No. 159 West street, city of New York.

March 1, 1854.—3t

PERUVIAN GUANO.

WE are receiving our supply of Peruvian Guano, per ships "Blanchard," "Senator," and "Gray Feather," from the Chincha Islands, and are now prepared to make contracts for the spring supply. As the demand is large, we would advise all who may be in want of this excellent manure to make early application. Price, $50 per ton of 2000 pounds. Be particular to observe that every bag is branded—

No. 1.
WARRANTED PERUVIAN
GUANO.
IMPORTED INTO THE UNITED STATES BY
F. BARREDA BROTHERS,
FOR THE PERUVIAN GOVERNMENT.

LONGETT & GRIFFING,
State Agricultural Warehouse, 25 Cliff street, New York.

April 1, 1854.—2t.

WM. PATERSON'S IMPROVED SUPERPHOSPHATE OF LIME,

WHICH has been fully tested in various States last season, and found the best in the market. Put up in bags of 150, 100, and 50 lbs. each, and sold by the manufacturer at DIVISION ST. WHARF, NEWARK, N. J., or by his Agents—

LONGETT & GRIFFING, State Agricultural Warehouse, 25 Cliff street, New York.
EMERY & CO., Albany, N. Y.
P. MALCOLM & CO., Bowley's Wharf, Baltimore, Md.
JOSEPH RADCLIFF & SON, Washington, D. C.
ROBERT BUIST, Philadelphia. March 1, 1854.—3t.

SUPERPHOSPHATE.

NO expense has been spared in the combination of this most fertilizing manure, which contains all the nutritive properties of all plants. It is superior to most of the articles offered for sale under the same name, and is inferior to none, although sold at a much lower price. Put up in bags at $40 per ton of 2000 lbs., cash.

Office of the New York Superphosphate Manufacturing Company, No. 159 West street, New York.

March 1, 1854.—3t VICTOR R. KNOWLES, Agent.

FERTILIZERS.

PERUVIAN GUANO, Pulverized Charcoal,
Superphosphate of Lime, Ground Land Plaster,
Bone Dust, Sulphuric Acid,

For sale at the State Agricultural Warehouse, No. 25 Cliff street, New York. LONGETT & GRIFFING.

February 1, 1854.—3t

FERTILIZERS.

SUPERPHOSPHATE OF LIME, No. 1, of the best manufacture.
Peruvian Guano, best No. 1.
Poudrette, Plaster of Paris, &c. R. L. ALLEN,
March 1, 1854.—3t 189 and 191 Water street, New York.

TREES FOR SALE.

THE subscriber offers a general assortment of Apple, Pear, Plum, Cherry, Apricot, and also a large quantity of Peach Trees, at reduced prices, together with Pear and Cherry Seedlings, one year old, for stocks. Address J. D. CONKLIN,
April 1, 1854.—1t* Locke, Cayuga Co., N. Y.

ONE DOLLAR A YEAR! FIFTY CENTS A VOLUME!

SPLENDID ENGRAVINGS!!

THE PEOPLE'S JOURNAL,

AN ILLUSTRATED RECORD OF AGRICULTURE, MECHANICS, SCIENCE, AND USEFUL KNOWLEDGE.

EVERY number contains 32 *large pages of letter-press, beautifully printed on fine paper, and PROFUSELY ILLUSTRATED with ENGRAVINGS*, forming at the end of each year TWO SPLENDID VOLUMES, comprising *four hundred pages*, and illustrated with about FIVE HUNDRED ELEGANT ENGRAVINGS, the entire cost being only ONE DOLLAR.

The PEOPLE'S JOURNAL was commenced in November, 1853, and has already attained a large circulation. The November number contained 40 engravings, the December number 72 engravings, the January number 47 engravings, and the February issue has 61 engravings, making in all 220 illustrations, although only four numbers have been published. These relate to Science, Art, Mechanics, Agriculture, and Useful Knowledge, in accordance with the general plan of the work. No publication of the kind has ever been produced with such magnificence or at so cheap a price. It is admired and taken by every one who sees it.

TERMS.—To Subscribers—*One Dollar a Year, or Fifty Cents for Six Months.* Subscriptions may be sent *by* mail in coin, post office stamps, or bills, at the risk of the publisher. The name of the Post Office, County, and State, where the paper is desired to be sent, should be *plainly written*. Address, postage paid,

ALFRED E. BEACH,
No. 86 Nassau Street, New York City,
Editor of the People's Journal.

A LIBERAL DISCOUNT TO POST MASTERS AND AGENTS.

Single copies 12½ cents. Specimens sent on receipt of four postage stamps.

March 1, 1854.—4t

PEOPLE'S PATENT OFFICE,
86 Nassau-st., New York.

FOREIGN PATENTS.—The undersigned still continues to act as Solicitor and Agent for securing Patents in all countries where they are granted. He is represented in Europe by honorable and reliable men, of long tried experience, through whom he is enabled to secure Patents in England, Scotland, Wales, Ireland, France, Belgium, Germany, Austria, Russia, Prussia, Spain, Portugal, &c. His facilities for transacting foreign Patent business are unsurpassed. He can generally obtain Certificates of Provisional Protection from the British Patent Office within six weeks from the time the invention is first committed to his care. The cost of British and other foreign Patents, to Americans, has been greatly reduced.

The undersigned may at all times be consulted, free of charge, by letter, or personally at his office, in reference to Patents, Inventions, &c. All consultations and business strictly private. For further information apply to or address ALFRED E. BEACH,
Solicitor of American and Foreign Patents,
April 1, 1854.—1t 86 Nassau street, New York.

TO NURSERYMEN.

100,000 Norway Spruce, 5 to 15 inches.
6,000 Silver Fir, 5 to 6 inches.
3,000 English Yew, 4 to 6 inches.
1,000 do 9 to 15 inches.
2,000 Larch, 12 to 15 inches.
4,000 do 6 to 9 inches.
3,000 Scotch Fir, 6 to 9 inches.
20,000 American Arbor Vitæ, 8 to 18 inches.
50,000 Osage Orange, 1 year.
20,000 Sweet Briar, 1 year from seed.
1,000 Gooseberries, best sorts.
1,000 Currants, Ruby Castle.
55 Varieties Strawberries.
20,000 Mountain Ash, 3 to 9 feet.
50,000 Asparagus Roots, 1 and 2 years.

☞ All for sale at the very lowest prices, at the Geneva Nursery.
April 1, 1854.—1t* W. P. & E. SMITH, Geneva, N. Y.

FRUIT SCIONS FOR 1854.

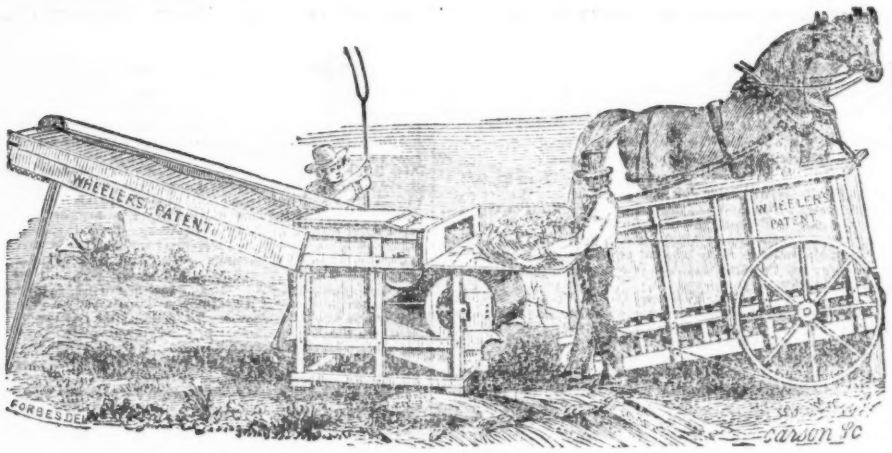
THE subscriber will furnish both Apple and Pear Scions for this season's grafting, of all the standard kinds, including those heretofore advertised by him in the Farmer. Price, one dollar per hundred for Apple, and three shillings per dozen for Pear Scions. In large quantities they would be sold less. *They can be sent by mail or express* to any portion of our country. Orders, enclosing the money, will be promptly filled. JAMES H. WATTS.

Rochester, February 1, 1854.—tf

40,000 CHERRY STOCKS,

ONE YEAR OLD, good size. Price, $5 per 1000. Also, a few hundred plants of my early Grape. They ripen two weeks earlier than the Isabella, and are a better grape. Price of two-year-old plants, $1; one-year-old, 50 cents. Address

April 1, 1854.—1t* H. PAIGN, Lockport, N. Y.



WHEELER'S HORSE POWER AND COMBINED THRESHER AND WINNOWER.

NEW YORK STATE AGRICULTURAL WORKS,
BY WHEELER, MELICK & CO, ALBANY, N. Y.

THE subscribers are now making for the trade of 1854, a much larger number of all articles in their line than they have in any previous year, and have made several improvements which will raise their Machines still higher in the public estimation.

As the limits of an advertisement will not admit of an explanation of all the advantages of our Machines, and as most of them are so well known as to need no commendation, we will make this statement brief, and for more detailed information we refer to our printed catalogue, which will be sent by mail, *postage free*, when requested.

As we give our entire attention to the improving and manufacturing of Horse Powers, Threshing Machines, and a few other articles, we feel warranted in assuring the public that they will find each of the following Machines unsurpassed:

WHEELER'S
PATENT RAILWAY CHAIN HORSE POWERS.

These Powers (represented in the above cut) are unrivaled for driving all kinds of Farmers', Planters', and other Machinery, which admits of being driven by Horse Power. They are made for either one or two horses, and their superior merits, in point of durability, strength and ease of running, are fully established; while their compactness and simplicity, lightness and greater length and width of treading floor and stall, give them advantages over other Powers, which are highly appreciated by those who have tried them. *Several thousands* of them are in use, some of which have threshed over 100,000 bushels; and though our present Powers are much improved over the old ones of the same kind, yet the latter are still good. Over 1,000 of them were sold by us and our agents the past season (a larger number than in any previous year), thus proving their increasing popularity.

WHEELER'S
PATENT COMBINED THRESHER AND WINNOWER.

This Machine (also represented in the cut) is a late invention. It was got out three years ago, after a long series of experiments resulting in a Machine which performs the *three operations of Threshing, Separating and Winnowing*, with as much dispatch, and with as few hands and horses, as are required to thresh and separate only with other Machines; and although designed for so complicated work, it is yet a model of simplicity and compactness. The entire running parts are driven by the main belts and one small band. We have no doubt it is the most perfect Machine in use for threshing and winnowing. Driven by two horses, they thresh and clean from 150 to 200 bushels of wheat, or twice that quantity of oats, per day. We give below a notice of it from the Valley Farmer, published at St. Louis, Mo., and also two letters from gentlemen who have the Machines in use, showing the estimation in which they are held, premising that these two are about an average of many other similar letters which we can show:

[From the Valley Farmer of August, 1853.]

"WHEELER'S COMBINED THRESHER AND WINNOWER.—We take pleasure in laying before our readers the following extract from a letter just received by us from a very respectable individual in Cape Girardeau county, Mo., to whom we sold one of these Machines about a week ago, with the understanding that if it did not work to his satisfaction he could return it to St. Louis at our expense. It will be recollected that the manufacturers warrant these Machines to thresh and clean from 150 to 200 bushels of wheat per day, or twice that quantity of oats:

'Apple Creek, Mo., July 18, 1853.

Mr. E. Abbott—Dear Sir:—I have tried my Thresher and Winnower, and it has given entire satisfaction. I have moved the Machine one mile, set it up, and threshed two hundred and forty-two bushels of wheat *in one day*, and have threshed forty bushels in an hour. It works finely, and is considered the best Machine to thresh and save grain in South-east Missouri. IT CAN'T GO BACK TO ST. LOUIS. I think I shall thresh from 8,000 to 10,000 bushels of wheat this season. YOURS, truly, JAMES F. COLYER.'"

Another gentleman, to whom we sold our Double Power and Combined Thresher and Winnower, writing to us from Orange Co., N. Y., under date of December 9th, 1853, says:

"I have received the Machine, and used it, and it gives the very best of satisfaction that could be expected.

Yours, truly, HENRY J. HOWE."

Having sold between 300 and 400 of the Winnowers during the past season, we could, if space permitted, give many other testimonials to their utility, but the above must suffice.

WHEELER'S
OVERSHOT THRESHER AND SEPARATOR.

This Machine is also our own invention, and has been in use 13 or 14 years, and its many advantages are appreciated by *other manufacturers*, as well as the farming public. Driven by our Double Power, it threshes and separates from the straw from 150 to 200 bushels of wheat, or twice as much oats, per day. For the Single or One Horse Power we make a smaller Thresher and Separator, which threshes from 75 to 100 bushels of wheat per day. The small Machine is adapted to moderate sized farms; and as the Single Power is sufficient for sawing wood, churning, cutting stalks, straw, &c., and driving almost every kind of machinery used by farmers, and is capable, by changing horses and elevating the power properly, of threshing much faster than we stated above, it is a very popular Machine in some sections. We would also call especial attention to our Clover Hullers, Portable Saw Mills, and Stalk and Straw Cutters, either of which is adapted to both our Double and Single Powers:

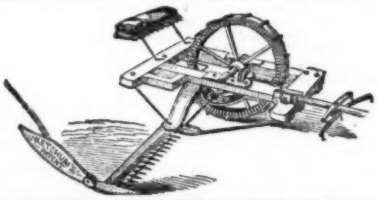
☞ All our Machines are WARRANTED to give entire satisfaction, or they may be returned at the expiration of a reasonable time for trial.

PRICES.

For Double or Two Horse Power, Thresher and Separator, Including belts, wrenches, oil cans, complete,	$160
Double Power alone, including belt,	120
do do without belt,	115
Double Thresher and Separator alone,	40
Single or One Horse Power, Thresher and Separator, including belts, oil cans and wrenches, complete,	128
Single Power alone, including belt,	90
do do without belt,	85
Single Thresher and Separator alone,	38
Clover Hullers,	32
Straw and Stalk Cutters, for Horse Power,	32
Circular Saw Mill, with 24-inch Saw,	38

One Horse Power, without band wheel,	80
Churn Gearing,	13
Band Wheel,	5
Band for Power,	5
Double Power, with Combined Thresher and Winnower, including belts, wrenches, &c,	245
Combined Thresher and Winnower alone,	125

☞ Orders are solicited and will be promptly filled. Address
WHEELER, MELICK & Co.,
April 1, 1854.—1t Albany, N. Y.



KETCHUM'S IMPROVED MOWING MACHINE,

WITH ENTIRE CHANGE OF GEAR.

THE ONLY SUCCESSFUL MOWER NOW KNOWN.

KETCHUM'S *Improved* Machine, which we are building for the harvest of 1854, was thoroughly tested last season, and the advantages gained by our change of gear are in all respects as we designed, viz: *durability, convenience and ease of action.* The shafts now have bearings at both ends, which overcome all cramping and cutting away of boxing. A counter balance is attached to the crank shaft, which gives it a steady and uniform motion. Each Machine can be thrown out of gear; there is great convenience at each and every nut, all of them being *on the upper side of the frame;* oil cups are attached to all the bearings, which, by the use of a wad of cotton, will hold oil for a long time, as well as protect the bearings from dust, grit, &c.; the finger bar is lined with iron its full width, which protects it from wear.

These and various other additions for strength, durability, &c., make it the most simple and perfect agricultural implement in use. They weigh about 750 lbs. each, and can easily be carried in a one-horse wagon.

It requires not over ten minutes to get one ready for operation, there being but two bolts (besides the pole bolts) to be secured to have one ready for use. They will cut *all kinds of grass*, and operate well on uneven or rolling lands, or where there are dead furrows. This Machine took the highest award, with *special approbation*, at the World's Fair; it also received, during last season, one silver and four gold medals, and various other flattering and substantial testimonials of approval. We have spared neither pains nor money to make this machine deserving of public favor, and hope to be able the coming season to supply the great and increasing demand.

We take this occasion to caution farmers against buying *untried* Mowers; if they do (as was the case with many last year), they will incur loss, vexation and disappointment.

If any parts are wanted to repair any Machine we have sold, or may hereafter sell, they will be furnished and only manufacturers' cost for the same be charged.

☞ In all cases where Extras are wanted, be sure to give us *the number of your Machine.*

(WARRANTY:) That said Machines are capable of cutting and spreading, with one span of horses and driver, from ten to fifteen acres per day of *any kind of grass*, and do it as well as it is done with a scythe by the best of mowers.

The price of the Mower, with two sets of knives and extras, is $110 cash, in Buffalo, delivered on board of boat or cars free of charge.

Office and Shop, corner of Chicago street and Hamburgh Canal, near the Eastern R. R. Depot, Buffalo, N. Y.

HOWARD & CO.,
Manufacturers and Proprietors.

The Mower is also manufactured by RUGGLES, NOURSE, MASON & CO., at Worcester, Mass., for the New England States;

By SEYMOUR, MORGAN & CO., Brockport, N. Y., for Illinois, Iowa and Michigan;

By WARDER & BROKAW, Springfield, O., for Ohio and Kentucky. April 1, 1854.—3t

PLOWS! PLOWS!

PROUTY & MEARS' Improved Center Draught Plows, of all the various sizes.

Michigan Sod and Subsoil Plow.

Rich's Iron Beam, of all the different patterns.

Massachusetts Eagle.

Mapes' Improved Subsoil Plows.

For sale at the State Agricultural Warehouse.

LONGETT & GRIFFING,
March 1, 1854.—2t No. 25 Cliff-st., New York.

ATKINS' SELF-RAKING REAPER.

40 OF these machines were used the last harvest in grass or grain, or both, with almost uniformly good success, in nine different States and Canada.

TWENTY-SIX PREMIUMS,

including *two at the Crystal Palace* (silver and bronze medals), were awarded it at the autumn exhibitions. I am building only 800, which are being rapidly ordered. Mr. Joseph Hall, Rochester, N. Y., will also build a few. ☞ Early orders necessary to insure a Reaper.

Price at Chicago $175—$75 cash with order, note for $50, payable when Reaper works successfully, and another for $50, payable first December next, with Interest; or $160 cash in advance. *Warranted to be a good Self-raking Reaper.*

☞ Agents, properly recommended, wanted throughout the country. Experienced Agents preferred. It is important this year to have the machines widely scattered.

Descriptive circulars, with cuts, and giving impartially the difficulties as well as successes of the Reaper, mailed to post-paid applications. J. S. WRIGHT,

March 1, 1854.—3t "Prairie Farmer" Warehouse, Chicago.

RAIN WATER FILTERS.

I CONTINUE to furnish Filters as usual, much improved in the inside fixtures, for which I have obtained "Letters Patent." They are now complete, and can be sent to any section of country in safety. No family living in lime sections of country ought to dispense with their use, as whatever is taken into the circulation has much to do with health, as a preventive of disease. They have been fully tested by hundreds of our first class citizens within the last ten years. I make four sizes, at $5, $6, $8 and $10 each. They will last from two to four years without repacking, which can easily be done by any one with proper directions. Orders for Filters, or Rights of Territory, will be attended to at once.

March 1, 1854.—tf JOHN KEDZIE, Rochester, N. Y.

GARDEN IMPLEMENTS.

HEDGE, Long Handle, and Sliding Pruning Shears; Budding and Edging Knives; Pruning Hatchets, Saws and Knives; Pruning, Vine and Flower Scissors; Bill and Milton Hooks; Lawn and Garden Rakes; Garden Scufflers, Hoes of great variety, Shovels and Spades; Hand Engines which throw water forty feet or more, Syringes and Water Pots; Grafting Chisels, Tree Scrapers, and Caterpillar Brushes; Transplanting Trowels, Reels; Hand Plow and Cultivator, very useful to work between rows of vegetables; together with a large assortment of other implements too numerous to mention. R. L. ALLEN,

March 1, 1854.—3t 189 and 191 Water street, New York.

NEW AND IMPROVED PLOWS!

INCLUDING the Deep Tiller, Flat Furrow, Self Sharpener, Center Draught, Side Hill, Subsoil, Double Mold Board, Potato, and Cultivation Plows.

Harrows, Rollers, Seed Sowers, Cultivators, and a large assortment of all other Agricultural Implements. R. L. ALLEN,

March 1, 1854.—3t 189 and 191 Water street, New York.

CORN SHELLERS.

WE have now on hand, at the Genesee Seed Store, a large stock of the various kinds of Corn Shellers of the most approved patterns now in use, all of which we offer for sale at the manufacturers' prices, and warrant them to give satisfaction, or to be returned and the money refunded. J. RAPALJE & CO.

March 1, 1854.—tf

CUTTER RIGHTS FOR SALE

WE will test our Hay, Stalk and Straw Cutter, patented November 8th, 1853, for speed, ease and durability, against any other in the United States. J. JONES & A. LYLE.

☞ For further information, address JONES & LYLE, Rochester, N. Y. February 1, 1854.—tf

OSAGE ORANGE SEED,

RECEIVED direct from Texas, and warranted good. Price, $20 per bushel—same rate per peck—and a reduction to dealers. Directions for culture, and management of the hedge, furnished to all customers. (It is now ascertained, by five years' experiment, that this most excellent hedge plant will endure the winters as far north as Western New York, and wherever it has become known it is rapidly finding favor.) M. B. BATEHAM,

March 1, 1854.—2t. Columbus, Ohio.

200 BUSHELS OSAGE ORANGE SEED,

JUST RECEIVED, and for sale on reasonable terms, at wholesal and retail. Seed warranted the growth of 1853, and genuine. Address J. & T. HAMMOND,

April 1, 1854.—2t* Dublin, Wayne Co., Ind.

WM. R. PRINCE & CO., FLUSHING, N. Y.,

ARE selling off the large stock of Trees from their 50 acre Nursery at reduced prices, the Railroad being laid out through it.

Extra large and beautiful Fruit and Ornamental Trees, and also smaller sizes.

8,000 Pears on Pear, 8 years grafted, and from 10 to 12 feet in height, and 20,000 of 6 to 10 feet.

10,000 Pears on Quince, 6 to 8 years grafted, in full bearing state, and 12,000 of 2 to 5 years.

N. B.—The above Pears have not been allowed to ripen fruit, the object being to increase their vigor.

15,000 Cherries on Mazzard Stock, 5 to 6 years grafted, down to 1 and 2 years.

12,000 Pyramid Cherries on Mahaleb Stock, 5 and 6 years down to 1 and 2 years.

3,000 Prune Plums for drying, 4 years old, grown from seed.

20,000 large Apples, 6 years grafted. 30,000 of less size.

25,000 large Orange and Portugal Quinces, 6 years old.

Figs and Pomegranates.

3,000 French Chestnut and Madeira Nuts, 8 to 12 feet.

12,000 Angers Quince, 6 years old, valuable to make layers for stocks to bud pears on.

Grapes.—25 valuable native varieties, and all choice foreign varieties.

Raspberries, Gooseberries, Currants and Blackberries.

Prize Strawberries.—A select and unequaled collection, comprising 30 splendid new varieties no where else obtainable.

Ornamental Trees of extra large size, comprising every variety suitable for lawns, arboretums and cemeteries.

Ornamental Shrubs of large size, and of all the finest and rare kinds.

Evergreen Trees and Shrubs, of all the most beautiful and rare species, and the following of *extra large size:* Norway Spruce, European Silver Fir, Balsam Fir, Scotch Fir, Swedish and Irish Junipers, Cedrus Deodara, Cedar of Lebanon, Austrian Pine, White Pine, Pinaster, Californian Pines, Pyramidal Cypress, English and Irish Yew, Pyramidal Cedar, Chinese, American and Siberian Arbor Vitæ, Taxodium sempervirens, Cryptomeria Japonica, Green and Variegated Hollies, Mahonia, several species, Photinia serrulata, Aucuba Japonica, Arbutus Unedo, Rhododendrons of all kinds, Scotch Broom, and Green and Variegated Tree Box.

20,000 large Silver and Norway Maple, and European Sycamore.

2,000 double Althea, 8 varieties, 4 to 6½ feet high, and bushy.

800 Swedish and Irish Junipers, 6 to 10 feet, and 2,000 of less sizes.

200 Funebral Cypress; 100 Virgilia lutea, 4 to 6 feet. 300 Salisburia adiantifolia, 3 to 6 feet. 300 Tilia macrophylla and argentea; 100 White Fringe tree, 6 to 9 feet.

30,000 cheap Arbor Vitæ for hedges, Osage Orange, Privet, and Box edging.

20,000 European Linden and Red-twigged do., 8 to 16 feet, for sale low.

6,000 large Horse Chestnuts, and 5,000 large Mountain Ash.

Extra large Magnolias—macrophylla, tripetala, acuminata, conspicua, gracilis, obovata, glauca, maxima, &c.

American Cypress and Drooping Larch, of all sizes.

Roses.—A select and splendid collection, covering 3 acres, including 100 varieties of Climbing Roses, 6 to 8 feet high, and all the new Perpetual and Moss Roses. Chinese Tree and Herbaceous Pæonies—150 splendid varieties, the latter very low for 25 to 100, assorted. Dahlias—the finest European prize varieties. Weigela amabilis and splendens, Deutzia sanguinea, gracilis, and 6 others, Spirea callosa and 25 others, Pyrus umbicillata rosea and atrosanguinea. Bulbous flowers of every variety, including all the splendid Japan Lilies, 30 new Gladiolus, 4 of Tiger flower, 20 of Amaryllis, Tuberoses, Oxalis Deppei and others. Chrysanthemums—100 choicest new large flowering Pompone and Liliputian varieties. Rhubarb of the largest kinds, and large German Asparagus. Select assortments of the most beautiful varieties of Phloxes, Iris, Daises, Verbenas, Polyanthus, Cowslips, Primroses, Hibiscus, Hollyhocks, Hemerocallis, Carnations, Picotees, Double Rose Campion, Double Rockets, Campanulas, Violets, and other Herbaceous Plants.

In this collection there are a great many rare and beautiful Trees, Shrubs and Plants, not to be found elsewhere, including the new Chinese and Japan Shrubs just introduced.

N. B.—We will supply Nurseries at one or two years' credit to any amount, if secured by mortgage or safe notes.

☞ Persons desiring large quantities will please send their lists to be priced at reduced rates. March 1, 1854.—2t.

VIRGINIA LAND FOR SALE.

A VALUABLE tract of land for sale in Richmond and Westmoreland counties, Virginia, containing 2700 acres—well timbered with ship and stave timber, well watered, and with vast beds of rich shell marl, enough to lime many such estates. The tract is about three miles from navigation, in a healthy location, and in a good neighborhood. It can be bought for the low sum of $10 per acre. The soil is good, and easily improved, with the means on it to put it in a high state of cultivation; about 1500 acres cleared; buildings small. It will make six or eight farms. I will make a deduction if sold without division. My address is 45 Broadway, Baltimore, Md. Persons wishing to purchase will call on or address me, and I will give any further information. H. BEST.

March 1, 1854.—3t

HIGHLAND NURSERIES, NEWBURGH, N. Y.

A. SAUL & CO., in inviting the attention of their patrons and the public in general to their very extensive collection of FRUIT AND ORNAMENTAL TREES, SHRUBS, &c., would respectfully inform them that the stock they offer for sale the coming spring is unusually fine, both as regards quality of trees, variety of kinds, &c. &c.

The soil and climate of the Hudson Highlands have rendered proverbial the success of the trees sent from here to all parts of the Union; and the accuracy and precision so indispensable in the propagation of fruit trees for which this establishment has long been celebrated, render errors in nomenclature of rare occurrence.

They have propagated in large quantities all the leading standard varieties which are proved best adapted for general cultivation, especially those recommended by the American Pomological Society, as well as all novelties both of native and foreign origin.

To particularize within the limits of an advertisement would be impossible; they refer to their General Catalogue, a copy of which will be sent to all post-paid applicants, on enclosing a post office stamp. The following comprises a portion of their stock, and are all of fine growth, viz:

PEARS in over 400 varieties, both standards on their own stocks for orchard culture, and on the Quince for dwarfs, pyramids and quenouelle, for garden culture.

APPLES in over 300 varieties, both standards and dwarfs.

CHERRIES, both standards and dwarfs.

PLUM, APRICOT, PEACH, NECTARINE and QUINCE trees, in every variety.

GRAPE VINES, both native and foreign, for vineries. Also,

GOOSEBERRIES (50 best Lancashire varieties), CURRANTS, RASPBERRY and STRAWBERRY plants, of all leading and known kinds; together with

SEA KALE, ASPARAGUS and RHUBARB roots.

ORNAMENTAL TREES, SHRUBS, and VINES, both deciduous and evergreen, suitable for street and lawn planting, embracing all the new and rare conifers, weeping trees, and shrubs of recent introduction.

ROSES in every variety, including Hybrid Perpetual, Hybrid Bourbon, Hybrid China, Hybrid Damask, Prairie, Boursault, Ayrshire, and other hardy climbing and garden varieties, as well as the more tender Tea, China, Bengal, Bourbon and Noisette varieties.

HERBACEOUS PLANTS.—A large collection of Pæonies, Phloxes, Campanula, Penstemon, Œnothera, &c. &c.

DAHLIAS and BEDDING PLANTS, for the parterre and flower garden, in large quantities and variety.

HEDGE PLANTS.—500,000 strong two-year-old Osage Orange, in three different sizes, at $10, $8 and $6 per 1000; Buckthorn plants, two years old, at $8 per 1000.

Dealers and planters of trees on a large scale will be dealt with on the most liberal terms.

Newburgh, March 1, 1854.—2t

GENESEE VALLEY NURSERIES.

A. FROST & CO. ROCHESTER, N. Y.,

OFFER to the public the coming spring one of the largest and finest stocks of Fruit and Ornamental Trees, Shrubs, Roses, &c., in the country. It in part consists of standard Apple, Pear, Cherry, Plum, Peach, Apricot, Nectarine and Quince Trees. Also, Dwarf and Pyramid Pears and Apples.

SMALL FRUITS.—Native and Foreign Grapes, old and new sorts of Currants, finest Lancashire Gooseberries, Strawberries, Raspberries, &c. &c.

The ORNAMENTAL DEPARTMENT comprises a great variety of Deciduous and Evergreen Trees, Shrubs, Vines and Creepers, which includes upward of of 300 varieties of the Rose.

BEDDING PLANTS.—150 varieties of Dahlias, a large collection of Verbenas, Petunias, Helictropes, &c. &c.

Priced Catalogues of the above will be mailed to all applicants enclosing a postage stamp for each Catalogue wanted, viz:

No. 1.—Descriptive Catalogue of Fruits, Ornamental Trees, Shrubs, &c.

No. 2.—Descriptive Catalogue of Green House and Bedding Plants of every description, including every thing new which may be introduced up to its season, will be published in March each year.

No. 3.—Wholesale Catalogue, published in September.

February 1, 1854.—tf

RIVER BANK NURSERY,

Opposite the Race Course, North St. Paul-st., Rochester, N. Y.

WE request the attention of purchasers to our stock of FRUIT TREES. It comprises all the varieties of merit, and will be sold at reasonable prices. The most careful and prompt attention will be given to all orders we may be favored with.

GEO. H. CHERRY & CO.

☞ Western Nurserymen can be accommodated with a large amount of young stock, of the choicest kinds.

March 1, 1854.—2t

FOR SALE,

BLACK MAZZARD CHERRY STOCKS, one year old.

JAMES C. CAMPBELL, Rochester, N. Y.

March 1, 1854.—2t.

AYER'S CHERRY PECTORAL,

For the rapid cure of

COUGHS, COLDS, HOARSENESS, BRONCHITIS, WHOOPING-COUGH, CROUP, ASTHMA, AND CONSUMPTION.

TO CURE A COLD, WITH HEADACHE AND SORENESS OF THE BODY, take the CHERRY PECTORAL on going to bed, and wrap up warm, to sweat during the night.

FOR A COLD AND COUGH, take it morning, noon and evening, according to directions on the bottle, and the difficulty will soon be removed. None will long suffer from this trouble, when they find it can be so readily cured. Persons afflicted with a seated cough, which breaks them of their rest at night, will find by taking the CHERRY PECTORAL on going to bed, they may be sure of sound, unbroken sleep, and consequent refreshing rest. Great relief from suffering, and an ultimate cure, is afforded to thousands who are thus afflicted, by this invaluable remedy.

From its agreeable effect in these cases, many find themselves unwilling to forego its use when the necessity for it has ceased.

TO SINGERS AND PUBLIC SPEAKERS this remedy is invaluable, as by its action on the throat and lungs, when taken in small quantities, it removes all hoarseness in a few hours, and wonderfully increases the power and flexibility of the voice.

ASTHMA is generally much relieved, and often wholly cured, by CHERRY PECTORAL. But there are some cases so obstinate as to yield entirely to no medicine. CHERRY PECTORAL will cure them, if they can be cured.

BRONCHITIS, or irritation of the throat and upper portion of the lungs, may be cured by taking CHERRY PECTORAL in small and frequent doses. The uncomfortable oppression is soon relieved.

FOR CROUP. Give an emetic of antimony, to be followed by large and frequent doses of the CHERRY PECTORAL, until it subdues the disease. If taken in season, it will not fail to cure.

WHOOPING-COUGH may be broken up and soon cured by the use of CHERRY PECTORAL.

THE INFLUENZA is speedily removed by this remedy. Numerous instances have been noticed where whole families were protected from any serious consequences, while their neighbors without the CHERRY PECTORAL were suffering from the disease.

Repeated instances are reported here of patients who have been cured from

LIVER COMPLAINTS by this remedy, so many that there can be no question of its healing power on these diseases. It should be perseveringly taken until the pain in the side and other unpleasant symptoms cease.

FOR CONSUMPTION in its earliest stages, it should be taken under the advice of a good physician, if possible, and in every case with a careful regard to the printed *directions* on the bottle. If judiciously used, and the patient is carefully nursed meantime, it will seldom fail to subdue the disease.

For settled CONSUMPTION in its worst form, the CHERRY PECTORAL should be given in doses adapted to what the patient requires and can bear. It always affords some relief, and not unfrequently cures those who are considered past all cure. There are many thousands scattered all over the country, who feel and say that they owe their lives and present health to the CHERRY PECTORAL.

This remedy is offered to the community with the confidence we feel in an article which seldom fails to realize the happiest effects that can be desired. So wide is the field of its usefulness, and so numerous the cases of its cures, that almost every section of the country abounds in persons, publicly known, who have been restored from alarming and even desperate diseases of the lungs by its use. When once tried, its superiority over every other medicine of its kind is too apparent to escape observation; and where its virtues are known, the public no longer hesitate what antidote to employ for the distressing and dangerous affections of the pulmonary organs, which are incident to our climate. And not only in formidable attacks upon the lungs, but for the milder varieties of Colds, Coughs, Hoarseness, &c., and for children it is the pleasantest and safest medicine that can be obtained. No family should be without it, and those who have used it never will.

Witness the following:

[Translation.]

Vermillionville, La., April, 1853.

MONS. LE DR. J. C. AYER:—I have of late made frequent use of your Cherry Pectoral in my practice, and am happy to inform you that in no case yet has it failed me. I have made some signal cures of Laryngitis and Bronchitis with it, and have completely cured one case of Asthma, which had withstood every other medicine I could employ. Accept, sir, the assurances of my distinguished consideration. JULES CLAUD GOUGUET, M. D.,

Late Surgeon of the Royal Marine, France.

Curacoa, March 5, 1852.

DR. J. C. AYER:—I use your Cherry Pectoral daily in my practice, and am satisfied it is a remedy which must meet in every country the highest approbation. C. W. JACKHEER, M. D.,

Resident Court Physician.

PREPARED AND SOLD BY JAMES C. AYER, PRACTICAL AND ANALYTICAL CHEMIST, LOWELL, MASS.

☞ Sold by LANE & PANE, Rochester, and by all Druggists every where. March 1, 1854.—1y

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HOME PROTECTION.

TEMPEST INSURANCE COMPANY.

CAPITAL, $250,000.

Organized December 24, 1852—Chartered March 1, 1853.

HOMES ONLY INSURED BY THIS COMPANY.

No one Risk taken for more than $3000.

HOME OFFICE, MERIDIAN, N. Y.

Many distinguished persons have insured their homes to the amount of $3000 each in this Company, among whom are Ex-President VAN BUREN, Kinderhook; Ex-Governor SEWARD, Auburn; DANIEL S. DICKINSON, Ex U. S. Senator, Binghamton.

To whom it may concern: AUBURN, May 10th, 1853.

We are personally acquainted with many of the Officers and Directors of the Tempest Insurance Company, located at Meridian, Cayuga county, N. Y. In our opinion they are among the most wealthy and substantial class of farmers in this county.

J. N. STARIN,
ELMORE P. ROSS,
THOMAS Y. HOWE, Jr.

The above gentlemen will be recognized as the Cashier of Cayuga County Bank, Auburn; Postmaster, Auburn; and Ex-Member of Congress, Auburn, Cayuga county, N. Y.

February 1, 1854—1y

THE

GENESEE FARMER.

PREMIUMS FOR 1854.

☞ *TIME EXTENDED TILL THE FIFTEENTH OF JUNE.* ☜

THE Proprietor of the GENESEE FARMER, encouraged by the liberal support long extended to this journal by its friends and patrons, announces that the FIFTEENTH VOLUME of the second series, commencing January, 1854, will contain a third more reading matter than any of its predecessors, and be otherwise much improved, without any increase of price.

To enlarge the usefulness by extending the circulation of the GENESEE FARMER, the undersigned will pay the following PREMIUMS on subscriptions to Volume XV., second series:

FIFTY DOLLARS,

IN CASH, to the person who shall procure the LARGEST NUMBER OF SUBSCRIBERS in any County or District in the United States or Canadas, at the club prices.

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IN CASH, to the one who shall procure the SECOND LARGEST LIST, as above.

THIRTY DOLLARS,

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TWENTY DOLLARS,

IN CASH, to the one procuring the FOURTH LARGEST LIST.

TEN DOLLARS,

IN CASH, to the one procuring the FIFTH LARGEST LIST.

In order to reward every one of the friends of the GENESEE FARMER for his exertions in its behalf, we will give to those not entitled to either of the above premiums, the following BOOKS, free of postage, or EXTRA PAPERS, as may be preferred:

1. To every person who sends **SIXTEEN** subscribers, at the club terms of thirty-seven cents each, ONE EXTRA COPY OF THE FARMER.

2. To every person sending for **TWENTY-FOUR** copies, as above, any AGRICULTURAL BOOK valued at FIFTY CENTS, or TWO EXTRA COPIES OF THE FARMER.

3. To every person ordering **THIRTY-TWO** copies, any AGRICULTURAL BOOK worth SEVENTY-FIVE CENTS, or THREE EXTRA COPIES OF THE FARMER.

4. To every person ordering **FORTY** copies, any AGRICULTURAL BOOK valued at ONE DOLLAR, or FOUR EXTRA COPIES OF THE FARMER.

5. To every person ordering **FORTY-EIGHT** copies, any ARGRICULTURAL BOOK worth ONE DOLLAR AND TWENTY-FIVE CENTS, or FIVE EXTRA COPIES OF THE FARMER.

For larger numbers, books or papers given in the same proportion. To save cost to our friends, we pre-pay postage on all books sent as premiums. Persons entitled will please state whether they wish books or extra papers, and make their selection when they send orders, if they desire books; or if they have not obtained as many subscribers as they intend to, we will delay sending until the club is full, if so requested. We do not require that all the papers of a club should be sent to one post-office. If necessary for the convenience of subscribers, we are willing to send to as many different offices as there are members of the club. We write the names on each paper, when a number are sent to the same office, if desired; but when convenient, Postmasters would confer a favor by having the whole number ordered at their own office, sent to their own address.

☞ As all subscriptions commence anew with the year, places where the FARMER was never before taken will stand an equal chance in the competition for premiums.

☞ BACK VOLUMES of the FARMER will be furnished, if desired, and counted the same as new subscribers. We shall keep a correct account of the subscribers sent by each person, and in the JULY NUMBER WE SHALL ANNOUNCE THE PREMIUMS.

☞ Specimen numbers, show-bills, &c., sent to all post-paying applicants. All letters must be post-paid or free. Subscription money, if properly enclosed, may be mailed at our risk.

THE VOLUME FOR 1854 IS

PRINTED ON GOOD PAPER, WITH NEW TYPE, BOUGHT EXPRESSLY FOR IT.

A gentleman, graduate of the University of Vienna, who is familiar with the languages of those nations in which the science of agriculture is most cultivated, will aid us in translating for the FARMER whatever can instruct or interest its readers. This gentleman is by profession a Civil Engineer and Architect—branches of knowledge intimately connected with the progress of rural arts and sciences. The general character of our paper is thus pithily stated by the Hon. MARSHALL P. WILDER, President of the Massachusetts Board of Agriculture, and of the United States Horticultural and Agricultural Societies, in a letter now on our table, which closes as follows:

"I have always had the GENESEE FARMER. *It is, without favor or affection, the best paper in the country.*

MARSHALL P. WILDER."

As our club price to each subscriber is only thirty-seven cents a year, no matter how many agricultural journals one may take, to patronize the FARMER can not impoverish him.

DANIEL LEE, Publisher and Proprietor.